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ABSTRACT
                  Based on the assumption that educators can adopt new
patterns of organization and management to improve the quality of
decision and change in education, this paper attempts to make
decision theory and small group process theory relevant to practical
decision situations confronting educational managers. Included are
(1) a discussion of the increasing rates of technological and social
change and their implications for organizational change; (2) an
analysis of the decision process, highlighting the value of
collective decisionmaking; (3) some suggestions for improving
organizational decisionmaking in education; (4) a discussion of the
roles of rationality and creativity in the decision process; (5)
several guidelines for managing and functioning within the decision
process; and (6) an appendix listing behavioral propositions drawn
from small group research concerning group process. The work reported
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COLLECTIVE DECISION MAKING IN ORGANIZATIONS

by

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PREFACE

The decision process has been the focus of much study and thought. Philosophers, economists, small group researchers, systems analysts, policy analysts, sociologists, and educational administrators have all delved into the process by which man chooses and charts a course of action. The efforts to describe, analyze, and offer guidelines for "effective decision making" have yet to be related to the peculiar requirements of the collective decision making in education. This paper is an attempt to make decision theory and small group process theory relevant to practical decision situations confronting educational managers.

Education can be thought of as the process through which individuals are acquainted with the past functions of society and developed for participation in future society. The educational system must at once reflect the past and help establish the order of the future. The decisions made by educators concerning the philosophies, purposes, priorities, policies, and programs, as well as the more immediate decisions dealing with curriculum, teaching personnel, facilities, etc., must take into consideration the past, present, and future. Every institution or organization, be it industrial, governmental or educational, functions according to the decisions which determine its policies and programs. If the decisions represent a true response to reality, they will be useful in moving the organization forward. If, however, the decisions are reflections of habits carried forward from

the past as is the case in many well-established organization or institutions, entropy advances and the system fails. Unfortunately, many educational decisions are traditional shibboleths by which the ritual of education is conducted, rather than self-renewing decisions that keep education responsive to the ever-changing needs of a complex society.

This paper is predicated on the assumption that educators can adopt new patterns of organization and management that will in turn improve the quality of decision and change in education. This paper includes:

1. A brief discussion of the ever-increasing rate of technological and social change and the implications for organizational change, particularly in educational systems.

2. An exploratory analysis of the decision process, highlighting the value of collective decision making and the factors in decision making over which some control might be exerted in order to improve decision making.

3. Suggestions for improving organizational decision making in education.

4. A discussion of the roles of rationality and creativity in the decision process, stressing the need for increasing and broadening the role of each in educational decision making.

5. A series of practical guidelines for managing and functioning in the collective decision process.

6. An appendix listing a series of behavioral propositions drawn from small group research concerning group process.

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We are not yet emotionally an adaptive society, though we
try systematically to develop forces that tend to make us
one. We encourage the search for new inventions; we keep
the mind stimulated, bright, and free to seek out fresh means
of transport, communication, and energy; yet we remain, in
part, appalled by the consequences of our ingenuity and, too
frequently, try to find security through the shoring up of
ancient and irrelevant conventions, the extension of purely
physical safeguards, or the delivery of decisions we ourselves
should make into the keeping of superior authority like the
state. These solutions are not necessarily unnatural or
wrong, but historically they will never be enough to give us
the serenity and competence we seek. . . . We may find at
least part of our salvation in identifying ourselves with the
adaptive process and thus share . . . some of the joy,
exuberance, satisfaction, and security . . . to meet the
changing time.

Morison, 1950

CHAPTER 1

CHANGE, ORGANIZATION, AND MANAGEMENT

. If we could first know where we are, and whither we
  are tending, we could better judge what to do, and
  how to do it.

                                        Abraham Lincoln

Change

Never before in the history of man has the pace of innovation* been

so rapid as to cause man to stop, analyze, and plan for the management of

change. Change is not new, nor is man's interest in the process by which

his social and physical environment is altered, transformed, and/or modi-

fied. ". . . what is new is the degree of change" (Postman and Weingartner)

1969, p. 10). We are living in what Postman and Weingartner term the

"Change Revolution." The rate of innovation and change is so rapid that

the personal and organizational systems which proved workable just five

years ago are today obsolete.

    Stability and consequent predictability--within "natural cycles"
    --was the characteristic mode. But now, . . . we've reached the
    stage where change occurs so rapidly that each of us in the course
    of our lives has continuously to work out a set of values, beliefs,

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    *Innovation is the process by which new ideas are developed and intro-
duced into the ongoing social order.

and patterns of behavior that are viable, or seem viable, to
each of us personally. And just when we have identified a
workable system, it turns out to be irrelevant because so
much has changed while we were doing it (Postman and Weingartner,
1969, p. 11).

We can no longer assume that what was functional five years ago will be

functional today, or that what is functional today will operate effec-

tively tomorrow.

What does the "Change Revolution" mean for the organizations and

institutions that prepare our youngsters for life in a world that will be

different from the one in which they are presently living and learning?

Simply put, it means, in addition to designing educational programs that

will develop individual abilities to cope with and deal effectively with

change,* educational organizations must operate in a manner conducive to

their own change and continuing growth. Unfortunately, as Oettinger (1969,

p. 64) points out, ". . . schools are now tethered by so many strings, that

they find it hard to change themselves, hence still harder to induce change

in society." It is difficult to produce change-oriented individuals in non-

change-oriented institutions (Rogers and Svenning, 1969, p. 20).

Many educational organizations are existing in a state of static

equilibrium achieved fifty years ago. As a result, we hear cries of

irrelevancy from those "passing through" the educational process. If our

educational systems are to function effectively in a larger social system

dominated by change, they must operate in a state of dynamic equilibrium.

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*"Coping with rapid change, living in temporary work systems, develop-
ing meaningful relations and then breaking them--all augur social strains
and psychological tensions. Teaching how to live with ambiguity, to
identify with the adaptive process to make a virtue out of contingency,
and to be self-directing--these will be the tasks of education, the goals
of maturity, and the achievement of the successful individual" (Bennis,
1966, p. 14).

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That is, there must be a "continual establishment of a new, more complex and more comprehensive equilibrium" (Katz and Kahn, 1966, p. 23). A dynamic organization must always be in the process of balancing and adjusting in response to changing needs and/or goals.

Static-state organizations are maintained and supported by rigid, hierarchical patterns. These patterns inhibit change and growth. In order to establish more dynamic organizations, we need to modify organization patterns to fit a mode of change and self-renewal. Organizations that not only react to change, but consciously anticipate and plan for change, will be more responsive to the environment in which they operate.

New Organizational Patterns to Meet Change Needs

Change has become a way of life in modern organizations. The people who manage these organizations are discovering that the traditional methods of planning and executing decisions, and indeed, the day-to-day organization and operating procedures of the enterprise, were not designed to function in such a climate (Cleland and King, 1969, p. 9).

Bureaucracy--The Traditional Pattern

The bureaucratic pattern of organization was developed in response to the need to organize and direct the forces of the 19th Century industrial revolution. "Bureaucracy, with its nicely defined chain of command, its rules and its rigidities, is ill-adapted to the rapid change the environment now demands" (Bennis, 1966, p. 12).

Why, you may ask. Let's briefly examine some of the characteristics of bureaucracies and the reasons may become obvious.

Characteristics of Bureaucracies

1. **Vertical Pyramid Structure and Scalar Chain of Command.** A well-defined hierarchy of authority designed to correlate with a gradation value forms the basis of structure in a bureaucracy. It emerged over time as a means of legitimizing authority roles and relationships. The vertical level of an individual's position in the organization indicates his value, competence, and power. Individuals exercise the specific authority accorded them by their position in the vertical pyramid since those in higher positions are supposedly more competent and knowledgeable and better able to make decisions. Authority flows from the highest level to the lowest level through a chain of command in which the subordinates receive orders only from those directly superior in the chain. "Authority to execute decisions is passed down the hierarchy; information and responsibility are exacted upward through the intervening layers of executives" (Cleland and King, 1968, p. 141).

2. **Departmental Alignment.** In most bureaucratic structures the organizational pattern is based on some technique of departmentation, such as functional homogeneity, similarity of product, territorial location, etc. The underlying assumption is: it is easier to manage a group of similar operations than to manage an operation consisting of many and varied elements and operations. Such alignment patterns tend to develop departmental loyalties at the expense of organizational goals.

3. **Fixed Organizational Statuses.** "Each position within the organization has a fixed and official area of jurisdiction, and this area is delineated in authority patterns and evidenced in job descriptions, policy manuals, etc." (Cleland and King, 1968, p. 143). The power and responsibility

of each organizational position is fixed, nonnegotiable and nondelegatable.

4. A Well-Defined System of Procedures and Rules for Dealing with All Contingencies Relating to Work Activities. Carefully delineated procedures and rules are viewed as the most effective and efficient way of dealing with operations. The rules tend to be rigid rather than flexible and applied without any reverence for unique situations.

5. Large size. Size and bureaucracy tend to go hand in hand. The larger the organization, the more likely it is to be bureaucratic in nature.

6. Impersonality in Operation. Heavy dependence on formal policies and rules as a means for dealing with most contingencies leads to an impersonality in the operation of the organization. "There is a heavy dependence on formal policies and rules to motivate and guide behavior" (Cleland and King, 1968, p. 146). The large size of most bureaucracies also contributes to impersonality in interpersonal relationships. It is the position, rather than the individual, that counts in a bureaucracy.

7. Parochialism. Fear of losing opportunities for advancement up the vertical ladder of status and financial success makes many bureaucratic employees "yes-men." They feel restricted in voicing opinions running counter to advocated positions of the organization. Gatekeeping based on fear of losing opportunities also means that much "negative" information never winds its way up through the organizational hierarchy. Thus, those at the top often have an inaccurate picture of what is happening.

8. Subordination of Individual Objectives to Organizational Goals and Objectives. Since organizational goals and objectives are defined by high-level authority, they are often not consistent with the individual goals of those lower in the hierarchy. Efficiency, integrity, and loyalty

to these organizational goals is _expected_ even when they conflict with those of the individual.

9. _Tendency to Perpetuate Itself._ Like the man who grows fatter as he grows older, many bureaucracies expand over time regardless of whether there is a need. Rather than cease to function because there is no need, the bureaucratic organization shifts its function in order to survive and thus perpetuate its need for existence (Cleland and King, 1968, p. 146). In many instances, it shifts as is, with little regard for differences between the old and new goals and functions.

10. _Fragmented and Inadequate Information Flows for Decision Making._ The organizational structure of a bureaucracy leads to a less than adequate flow of information for peak effectiveness in operation and decision making. "This general process can be described as information organized into certain patterns and passed upward through management levels, while decisions and directives based on this information are passed downward" (Read, 1969, p. 18). "Officials near the top of a bureaucracy have a greater breadth of information about affairs in the organization than those below. Individuals at lower levels, however, have more detailed knowledge about their particular activities. Therefore, no one knows everything about what is going on in the organization" (Cleland and King, 1968, p. 146). This means most of the people responsible for the efficient and effective functioning of the organization lack an in-depth gestalt of organizational goals and objectives, and those in decision-making positions lack specific knowledge about actual operations.

Bureaucracies are Change Resistant by Nature

The criticisms of the bureaucratic pattern are many and varied. Bennis (1966, p. 6) states:

> I have recently cataloged the criticisms of bureaucracy, and they outnumber and outdo the Ninety-five Theses tacked on the church door at Wittenberg in attacking another bureaucracy. For example:
>
> 1. Bureaucracy does not adequately allow for personal growth and the development of mature personalities.
> 2. It develops conformity and "group-think."
> 3. It does not take into account the "informal organization" and the emergent and unanticipated problems.
> 4. Its systems of control and authority are hopelessly out-dated.
> 5. It has no adequate juridical process.
> 6. It does not possess adequate means for resolving differences and conflicts among ranks and, most particularly, among functional groups.
> 7. Communication (and innovative ideas) are thwarted or distorted because of hierarchical divisions.
> 8. The full human resources of bureaucracy are not being utilized because of mistrust, fear of reprisals, etc.
> 9. It cannot assimilate the influx of new technology or scientists entering the organization.
> 10. It will modify the personality structure such that man will become and reflect the dull, gray, conditioned "organization man."

Forces for growth, innovation, and change are stymied by the "fixed" nature of operating procedures in the bureaucracy. The "established" hierarchical positions, fixed lines of communication, and "rules" for behavior all inhibit change and function to maintain the status quo. At best, the bureaucratic organization is sluggish in its response to the change needs of its personnel and/or the larger environment. Most often, it fails to respond all together.

Bureaucracies are suited to stable environments of the past, not the volatile environments of contemporary society. We cannot afford bureaucratic educational organizations that do not and cannot respond to the

change demands of the society they serve. "Because most . . . educational

. . . organizations follow the bureaucratic form of decision making, top

management would have to modify this system significantly in order to

increase its solution payoffs" (Young, 1966, p. 382). ". . . authority

and responsibility may well be the wrong principles of organization. It

may well be that we will have to learn to organize not a system of authority

and responsibility--a system of command--but an information and decision

system--a system of judgement and expectations" (Drucker, 1959, p. 174).

Matrix Organization--An Emerging Pattern

> What appears to be occurring is that our conception of the
> organization is changing from one of structure to one of
> process. Rather than visualize the organization in its
> traditional structural, bureaucratic, and hierarchical motif,
> with a fixed set of authority relationships much like the
> scaffolding of a building, we are beginning to view organiza-
> tion as a set of flows, information, men, material, and
> behavior. Time and change are the critical aspects (Young,
> 1969, p. 51).

Are there organizational patterns that will support flexible responses

to: technological growth; changing social and political values, increased

complexity, diversity, and specialization; environmental crises; a mixed

economy;* etc., etc., etc.?

Basically, what is needed is a fluid organizational structure that can

be rearranged on the basis of changing definitions of organizational goals

and objectives. "Adaptive, problem-solving, temporary systems of diverse

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*Bennis (1969, p. 15) outlines the characteristics of a mixed
economy as: interdependence rather than competition; turbulence and
uncertainty rather than readiness and certainty; large scale rather than
small scale enterprises; and complex and multi-national rather than
simple national enterprises.

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specialists, linked together by co-ordinating and ask-evaluating executive

specialists in an organic flux--this is the organization form that will

gradually replace bureaucracy as we know it" (Bennis, 1969, p. 15).

We are moving from social structures keyed to permanency and stability

to those keyed to temporality and change. In an organizational context,

we should be moving from bureaucracies to program and/or project-oriented

organizations.* The matrix pattern of organization is the resulting hybrid.

It combines the functional-orientation of the bureaucracy with the program

and/or project-orientation of more temporary organizations. The organiza-

tion is structured both on the basis of functions and programs or projects.

It can be thought of as organic system moving on two axes. The administra-

tive axis serves as a reference line for functional units of the organiza-

tion such as divisions or offices. Organizational units concerned with

broad issues, sets of problems, or achievement of specific objectives which

require multi-disciplinary efforts are located along the program or project

axis.

> The divisions and offices on the administrative axis represent
> the "administrative homes" for practically all professional
> personnel. As the agency defines, plans, develops, and staffs
> major programs which qualify for "program axis" management,
> professional personnel from the divisions (supplemented by
> outside temporary or "instant" staff) will be assigned to
> work on such programs for appropriate portions of their time
> (Minear, 1968, p. 143).

The matrix pattern of organization can put people with questions and

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*A program-oriented organization is one in which all the goals of the
organization are accounted for by programs designed to lead to goal attain-
ment. A program structure should permit comparison of alternative methods
of achieving objectives.
A project organization is oriented to the achievement of high priority
objectives within a limited time frame. The organization's life span is
directly correlated with the achievement of its objectives. It is a
temporary organization.

problems in contact with various sources of expertise, experience, skills, and competencies. The matrix pattern facilitates rather than restricts interaction within the organization.

> The program axis (oriented to activities) cuts directly across the traditional functional organization boundaries, offering broad opportunities to form multidisciplinary task-oriented teams, and forcing a much broader view of educational issues and problems. Such an organizational matrix stresses need for improved interdivisional communication and planning, requires the application of modern management methods and techniques, provides for effective short-term management, and leads to the long-range planning and adaption now demanded (Minear, 1968, p. 144).

Characteristics of Matrix Organizations

1. _Integration of Operational and Functional Aspects of the Organization._ The vertical hierarchy of bureaucratic systems often separated the operational level, the managerial level, and the policy-making levels. In a matrix organization all aspects of the system are interrelated through vertical, horizontal, and diagonal lines of responsibility and accountability.

2. _Goal and Objective Orientation._ The goals and objectives of a matrix organization must be clearly specified so that the efforts of the individuals can be directed to those ends. Individuals develop "loyalties" to the achievement of the objectives rather than departments or divisions.

3. _Fluid Organizational Roles._ More flexible and varied use of personnel results when an organization adapts a program or project orientation. Individuals may work for two, three, or four program managers, serving in different capacities in each one of the programs. A by-product of such variability is professional growth and development. "Long and varied experience in many types and levels of organization has demonstrated

that this can and does work, and work well, with benefit to organizational
health and enterprise, and to the individuals involved" (Minear, 1968,
p. 144).

4. An Emphasis on Planning. As projects are completed, organizational
efforts can be focused in new directions. This forces a constant examina-
tion of objectives, new organizational needs, and the changing demands of
the larger environment. This planning cycle keeps the organization self-
renewing.

5. Emphasis on Skills and Competencies Rather Than Positions. Person-
nel are chosen for work teams on the basis of skills and competencies needed
rather than on the basis of a position they hold in a hierarchical structure.
Project needs are matched with required skills, and personnel drawn from
wherever needed in the organization.

6. Use of Work Groups or Task Forces. Many planning, evaluating,
decision, and operational activities are carried out by groups rather than
individuals due to their complexity. The composition of the groups varies
with the task or project.

7. Coordination of Individual and Organizational Goals. Because
more individuals are involved in planning and decision-making activities
there is a greater consonance between individual and organizational goals.

8. Integrated, Interrelated and Freer Information and Communication
Flows. The fluid movement of people throughout the organization, and the
involvement of individuals in more than one type of activity or project
means a more integrated flow of information and communication. The
thwarting of communication and innovative ideas due to hierarchical divi-
sions in a bureaucracy almost disappears in a matrix organization.

9. Increased Responsiveness and Adaptability. All of the

aforementioned factors lead to an organization that is more flexible,
more adaptable, and more responsive to change. A matrix organization has
an increased capacity to respond quickly to identified problems and oppor-
tunities, and the power to mobilize more effectively the resources
relevant to understanding and utilizing current happenings.

The Matrix Pattern Facilitates Change

The program or project orientation of the matrix organization ensures
change. As projects are completed (objectives achieved), new objectives are
specified and new projects generated. A program or project orientation
means that the organization is always in the process of identifying needs
and/or opportunities, defining and/or redefining objectives in light of
current and/or future states, and designing programs or projects to meet
the new objectives. It is an information and decision-making system
responsive to system and environmental change.

The "fluid" nature of operations in a program or project organization
stimulates the currents of change. The task mobility of personnel and the
corresponding changes in role and function require continual professional
growth and development. Further, varied assignments for individuals is
likely to increase the breadth of creative application of experience.

The matrix organization is one answer to creating more viable systems
for the technotronic age.

Management Concepts Congruent with Change

Every human activity involving human effort possesses an element

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which to some degree brings unity and cohesiveness to the
undertaking. We call this element management (George, 1968,
p. 160).

How best to organize the efforts of individuals to achieve
desired objectives has long been one of the world's most
important, difficult, and controversial problems (Likert,
1961, p. 5).

Just as organizational patterns and structures must be altered to

accommodate change, so must the principles underlying the management of

organizational efforts. Perhaps the basic philosophy underlying managerial

behavior, has already begun to change. Bennis (1966, p. 188) notes a funda-

mental change in managerial philosophy reflected in the following three

areas:

1. A new concept of man, based on increased knowledge of his
   complex and shifting needs, which replaces the over-
   simplified, innocent push-button or inert idea of man.
2. A new concept of power, based on collaboration and reason,
   which replaces a model of power based on coercion and
   fear.
3. A new concept of organizational values, based on an
   humanistic existential orientation, which replaces the
   depersonalized, mechanistic value system.

A change in philosophy also means a change in approach, principle, tech-

niques, and tools. Briefly highlighted in the following paragraphs are

some of the management concepts that appear related to coordinating,

administering, and controlling a change-oriented organization.

The Systems Approach

Millennia age, some genius discovered that such wiggles
as fish and rabbits could be caught in nets. Much later,
some other genius thought of catching the world in a net. . . .
The net has "cut" the big wiggle into little wiggles, all
contained in squares of the same size. Order has been imposed
on chaos. We can now say that the wiggle goes so many squares
to the left, so many to the right, so many up, or so many down,
and at last we have its number. . . . The net has thus become

> one of the presiding images of human thought. But it is always
> an image, and just as we cannot use the equator to tie up a
> package, the real wiggly world slips like water through our
> imaginary nets. However much we divide, count, sort or
> classify this wiggling into particular things and events,
> this is no more than a way of thinking about the world: it
> is never actually divided (Watts, 1966, p. 52-53).

Accompanying the emphasis on organizational goal and objective specifica-

tion is an attempt to broaden the organizational perspective, to focus on

the organization as a systemic whole that exists in an interaction influence

relationship with a larger environment and other systems in that environ-

ment. In the past, the organizational view has often been narrow--

concentrated on departments or divisions of an organization with little

regard for the whole organization or the environment in which it operates.

For example, the cost reduction programs planned by the "efficiency

experts" of the past were often narrowly confined to improving specific

divisions in the organization. These experts were often able to reduce the

costs of a specific division. Unfortunately, they paid little attention to

the impact on the total organization--and that was sometimes disastrous.

Hopefully, the systems approach prevents such disasters by forcing a

perspective which includes a view of the whole system and its environment,

including the transactions and relations among all the interacting inter-

faces. The total organization is considered as a _purposive_ system, and

its parts or elements and their relationships to each other, to the total

organization, and to the environment are viewed in light of their contribu-

tions to the purposes of the system.

The aim of the systems approach is to "spell out in detail what the

whole system is, the environment in which it lives, what its objective is,

and how this is supported by the activities of the parts" (Churchman, 1968,

p. 29). While it may be somewhat arrogant* to think that an individual or
group of individuals can really envision the complexities of a total
system and its inter- and intra-relationship as it strives toward it;
purpose, the view of the whole as a starting point for analysis makes more
sense than starting with the parts.

> . . . just as no thing or organism exists on its own, it
> does not act on its own. Furthermore, every organism is
> a process: thus the organism is not other than its actions.
> to put it clumsily: it is what it does. More precisely,
> the organism, including its behavior, is a process which
> is to be understood only in relation to the larger and
> longer process of its environment. For what we mean by
> "understanding" or "comprehension" is seeing how parts fit
> into a whole, as one assembles a jigsaw puzzle, but that
> the whole is a pattern, a complex wiggliness, which has no
> separate parts. Parts are fictions of language, of the
> calculus of looking at the world through a net which seems
> to chop it up into bits. Parts exist only for the purpose
> of figuring and describing, and as we figure the world out
> we become confused if we do not remember this all the time
> (Watts, 1966, pp. 89-90).

Systems Analysis

The tool resulting from the systems approach is systems analysis,
which is "a systematic approach to helping a decision maker choose a course
of action by investigating his full PROBLEM, searching out objectives and
alternatives, in light of their consequences, using an appropriate FRAMEWORK

---

*"There is a story often told in logic texts about a group of blind
men who are assigned the task of describing an elephant. Because each
blind man was located at a different part of the body, a horrendous argument
arose in which each claimed to have a complete understanding of the total
elephantine system.
"What is interesting about this story is not so much the fate of the
blind men but the magnificent role that the teller had given himself--namely,
the ability to see the whole elephant and consequently observe the ridiculous
behavior of the blind systems describers. The story is in fact a piece of
arrogance. It assumes that a very logically astute wise man can always get
on top of a situation, so to speak, and look at the foolishness of people
who are incapable of seeing the whole" (Churchman, 1968, p. 28).

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--in so far as possible analytic--to bring expert judgment and intuition to bear on the problem" (Rand Corporation, June, 1968, as quoted in Evans, 1970). Systems analysis is a continuing process that encourages exam nation, evaluation, and redefinition of delineated organizational purposes in light of both societal and organizational needs. It provides "both a framework and methodology that can be used to plan, develop, and implement programs of planned change" (Miller, 1969, p. 1). "The effectiveness of systems analysis . . . requires either that objectives and criteria of evaluation be known in advance, or that alternative possible objectives be clearly enough formulated so that they can be compared; and criteria and objectives of specific actions obviously relate to a society's system of values" (Mesthene, 1970, p. 46).

Participative Management

Increasingly, individuals are demanding the right to participate in planning and decision making that affects their work, education, social, and political lives. In addition, the complexity of problems generated by a rapidly changing environment requires group rather than individual efforts for solution, as it is almost impossible for any one individual to marshal all the relevant information, generate numerous alternative solutions, exercise objective judgment in evaluating solution alternatives, and make effective final decisions.

The time is ripe for participative management. In a participative management system the manager uses: (1) the principle of supportive

relationships,* (2) group problem finding, problem solving, and decision-

making methods, and (3) high performance goals as a basis for operation.

An organization operating with successful participative management tech-

niques is described by Likert (1970, p. 3) in the following manner.

> This human system is made up of interlocking work groups
> with a high degree of group loyalty among members and favor-
> able attitudes and trust between supervisors and subordinates.
> Sensitivity to others and relatively high levels of skill in
> personal interaction and the functioning of groups also are
> present. These skills permit effective participation in
> decisions on common problems. Participation is used, for
> example, to establish organizational objectives which are a
> satisfactory integration of the needs and desires of all
> members of the organization and of persons functionally
> related to it. High levels of reciprocal influence occur,
> and high levels of total coordinated influence are achieved
> in the organization. Responsibility for the organization's
> success is felt individually by the members and each initi-
> ates action, when necessary, to assure that the organization
> accomplishes its objectives. Communication is efficient and
> effective. There is a flow from one part of the organization
> to another of all relevant information important for each
> decision and action. The leadership in the organization has
> developed what might well be called a highly effective social
> system for interaction and mutual influence.

This type of management is a striking contrast to authoritarian influ-

ence and restricted interaction characteristics of bureaucratic systems.

Participative management is the natural ally of a project or program

orientation in an organization.

Because people work together in planning, evaluating, and decision-

making activities, differences of opinions are likely to be frequent.

> Conflict and differences of opinion always exist in a healthy
> and virile organization, for it is usually from such differences

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*The principle of supportive relationships is defined as: "The
leadership and other processes of the organization must be such as to ensure
a maximum probability that in all interactions and in all relationships
within the organization, each member, in light of his background, values,
desires, and expectations, will view the experience as supportive and one
which builds and maintains his sense of personal worth and importance"
(Likert, 1961, p. 103).

that new and better objectives and methods emerge. Differ-
ences are essential to progress, but bitter, unresolved
differences can immobilize an organization. The central
problem, consequently, becomes not how to reduce or elimi-
nate conflict, but how to deal constructively with it
(Likert, 1961, p. 117).

Thus, managers of projects or task force groups must learn to use conflict

as a constructive force in group work activities.

These are not the only new management concepts that are relevant for

individuals working in matrix organizations (see suggested readings) but

they are two of the most basic.

Implications for Education

Many educators agree that education is experiencing a value
crisis from which it may emerge as a very different institution.
Since it is such a central, formative influence on the character
of the society, much of the future of the country and of the
world depends upon the outcome. Among the dimensions of the
crisis is the issue: To what extent and how should we be edu-
cating young people to adjust themselves to their environment,
and to what extent and how should we be educating them to
adjust their environment to themselves? This is a matter that
is not entirely in the hands of educators to decide, for if
young people are sufficiently dissatisfied with the environment
as they find it, and cannot learn through normal educational
channels how to influence it, they will seek to do so outside
of those channels. The schools must provide useful guidance
on this matter if the changes that must take place are to occur
non-destructively. If the schools cannot respond well enough
to the demand for change, the social structure of which the
schools are a part may become the target of revolutionary
change (Adelson, 1968, p. 232).

American school systems are structured for the most part in such a

manner as to be "ideally resistant to change" (Oettinger, 1969, p. 225).

These systems succeed in "combining the rigidity of military service and

the fragmentation of small business without either the centralized author-

ity that can ultimately make the military move or the initiative and

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flexibility of response enjoyed by the innovative entrepeneur" (Mesthene, 1970, p. 22).

Educational organizations must harness the forces within their own systems and in the larger environment that can set in process the changes that will make our school systems viable learning systems. Recently, John Gardner stated, ". . . All too often we are giving our young people cut flowers when we should be teaching them how to grow their own plants. We are stuffing their heads with the products of earlier innovations rather than teaching them to innovate."

One of the ways educational systems can begin to become more responsive to the demands of the environment is by adopting the organizational patterns and management concepts being developed by business, industry, and government. If our educational systems undertake the steps of incorporating program or project orientation in their organizations, adopting systems analysis in planning and decision-making activities and using participative management techniques, they are likely to increase their ability to respond to demands of the changing environment. These are not easy steps to take, but vital if we are to prevent chaos.

> The systems pattern provides a decision-shaping process that
> is open to human judgment and aesthetic guidance through use
> of tools right at hand. Each education agency must build for
> itself a flexible, decision-shaping, person-oriented system
> that will constantly adapt itself, grow, and develop in process
> orientation and operation, under control of a variety of feed-
> back loops that carry information. Changing circumstances will
> thus naturally change the system inputs, and inevitably and
> quickly produce the changed outputs required (Minear, 1968,
> p. 145).

As we pointed out earlier, matrix organizations are by nature designed to cope with the change and the future. Current and future problems are integrative aspects of the organization. There is a constant

definition of new goals and objectives to meet change needs. Incorporating a program or project orientation in educational systems means a constant redefinition of educational goals and objectives and ways of achieving them. Tradition is eliminated as the rationale for operating and effectiveness becomes the norm. Educational systems that are program/project oriented are more likely to produce individual. capable of dealing with the environment of the future (growing their own plants), because they reflect in their operation the values and norms that foster inquiry, alternative avenues to problem solution, and adaptability. Concepts such as relativity, probability, risk, uncertainty, contingency, multiple causality, multiple alternatives, differences and nonsymmetrical relationships, etc., become operationally embedded in such organizations and affect those "passing through."

The structural changes implied in adapting a matrix pattern of organization to current educational systems must be accompanied by functional changes in management that will compliment a structure designed to respond to and cultivate change. Educational planning and decision processes can be improved through employing techniques such as systems analysis and participative management.

The comprehensive, rational, and hopefully creative analyses of educational goals viewed in societal perspective that can result from systems analysis should provide a much better basis for educational planning and decision making. With assumptions made explicit, objectives and criteria clearly defined, and alternative courses of action compared for possible consequences, educators can approach educational change from a rational as well as a gut-level perspective. Systems analysis can help generate alternatives by processes that are accessible to critical examination, capable

of replication by others, and modifiable as new information becomes available. Systems analysis can take some of the hocus-pocus of educational decision making.

Employing participative management techniques in educational organizations will mean a drastic change for some educational systems and only slight changes in others. Using groups of parents, teachers, students, knowledge-area experts, and school administrators to search for problems, plan for the future, specify objectives, propose alternative routes for achievement, and make decisions will probably mean educational programs that are closer reflections of current and future change needs.

In educational systems there may be some need to prepare teachers, parents, and students for the new roles they will have to assume if they are to be involved in the group decision procedures. Traditionally, educational systems have operated under authoritarian management, and as a result, individuals may not readily accept their new participative roles in educational planning and decision making. Gottlieb and Brookover (1966) concluded from an investigation of Michigan public school teachers that teachers have come to accept a role that does not include active participation in educational decisions. "In other words, the public school teacher does not perceive of herself as someone who should and can make decisions about educational innovations. . ." (p. 123). It is obvious, however, that teachers should be included in educational planning and decision groups. In conjunction with other interested and knowledgeable individuals, teachers can help develop educational programs that better fit the needs of the learner of today and tomorrow.

Participative management in education is becoming a necessity. It is no longer possible for a single school administrator to keep abreast of all

the changes (both technological and social) that are going to require and/or
promote change in education. Groups of individuals selected on the basis
of their knowledges, competencies, and skills will have to undert.ke the
process of analyzing educational problems, gathering information about
the problems, analyzing the information, and proposing alternative solu-
tions.

Educational systems must take some action or be deluged by the forces
for change. We feel the steps suggested here are among the most likely to
produce more responsive and innovative educational concepts. If you are
interested in pursuing these subjects in more depth, the following readings
may prove "enlightening."

Suggested Readings

On Change:

Warren G. Bennis and Philip E. Slater, The Temporary Society (New York:
  Harper & Row, 1968).

Kenneth Boulding, The Meaning of the 20th Century: The Great Transition
  (New York: Harper & Row, 1964).

Peter F. Drucker, The Age of Discontinuity (New York: Harper & Row, 1969).

Michael Harrington, The Accidental Century (Baltimore: Penguin Books, 1965).

Emmanuel G. Mesthene, Technological Change: Its Impact on Man and Society
  (Cambridge: Harvard University Press, 1970).

Everett M. Rogers with Floyd Shoemaker, Communication of Innovations: A
  Cross-Cultural Approach (Glencoe, Free Press, in press).

On Change and Education:

Educational Policy Research Center, Alternative Futures and Educationa!
    Policy, Stanford Research Institute, 1970.

Willis W. Harman, The Nature of Our Changing Society: Implications for
    Schools, Stanford Research Institute, Educational Policy Research
    Center, 1969.

Ronald G. Havelock, A Guide to Innovation in Education (Ann Arbor: Insti--
    tute for Social Research, Center for Research on the Utilization of
    Scientific Knowledge, 1970).

Donald R. Miller, A System Approach to Planned Change in Public Education,
    Volume I--An Adaptive Framework for Public Education and Educational
    Management (Burlingame, Calif.: OPERATION PEP, 1970).

Donald R. Miller, A System Approach to Planned Change in Public Education,
    Volume II--A Strategy for Planned Change in Public Education
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Everett M. Rogers and Lynne Svenning, Managing Change (Burlingame, Calif.:
    OPERATION PEP, 1969).

Warren L. Ziegler, An Approach to the Futures--Perspective in American
    Education (Syracuse, University Research Corporation, Educational
    Policy Research Center, 1970).

The Designing Education for the Future Series published by Citation Press,
New York.

    (1)   Edgar L. Morphet and Charles O. Ryan, eds., Prospective Changes
          in Society by 1980, 1966.

    (2)   Edgar L. Morphet and Charles O. Ryan, eds., Implications for
          Education of Prospective Changes in Society, 1967.

    (3)   Edgar L. Morphet and David L. Jesser, eds., Planning for Effectiv:
          Utilization of Technology in Education, 1968.

    (4)   Edgar L. Morphet and David L. Jesser, eds., Emerging Designs for
          Education, 1968.

On New Organizational Patterns:

Warren G. Bennis, Changing Organizations (New York: McGraw-Hill Book Co.,
    1966).

David I. Cleland and William R. King, Systems, Organizations, Analysis
    Management: A Book of Readings (New York: McGraw-Hill Book Co., 1969).

David I. Cleland and William R. King, Systems Analysis and Project Management (New York: McGraw-Hill Book Co., 1968).

Daniel Katz and Robert L. Kahn, The Social Psychology of Organizations (New York: John Wiley, 1966).

Sheldon Varney, Considerations for the Development of Improved Organization Structures and Managerial Relations in PPB Systems (Burlingame, Calif.: OPERATION PEP, 1970).

On Management Concepts:

John Evans, The Evolving Role of Systems Analysis in Educational Management (Burlingame, Calif.: OPERATION PEP, 1970).

Oliver R. Gibson, A General Systems Approach to Decision-Making, paper presented as part of the series General Systems Theory and Education, at the Eleventh Annual General Meeting of the Society for General Systems Research, American Association on the Advancement of Science, Berkeley, California, December, 1965.

Rensis Likert, The Human Organization (New York: McGraw-Hill Book Co., 1965).

Rensis Likert, New Patterns of Management (New York: McGraw-Hill Book Co., 1961).

Matthew Miles, Innovative Climates in Educational Organizations, Stanford Research Institute, 1970.

Donald R. Miller, et al, A Manager's Guide to Objectives (Burlingame, Calif.: OPERATION PEP, 1969).

CHAPTER II

THE COLLECTIVE DECISION PROCESS IN THE
ORGANIZATIONAL CONTEXT

The decision process in education is a cornerstone for
the building of an adaptive society. This process,
including planning, policy setting, and decision making
is currently undergoing some encouraging change. This
is important because to remain viable and vital, educa-
tion must be a part of the accelerating dynamism of
social change. The information required for adapting
to change is greater than for operating in a stable con-
dition. Improving the quality of decision making will
therefore require a growing investment in information
gathering, processing, dissemination, and use (Adelson,
1968, p. 233).

"The school system has its choice: change well and willingly (via

good decision processes) or be progressively invaded or displaced"

(Adelson, 1968, p. 248). Underlying the pleas for new organizational

patterns and management techniques in the preceding chapter is the ultimate

goal of improving the educational decision process.

The Decision Process

A decision, whether made by an individual or a group, whether based on

information or intuition, whether arrived at through rational process or by

impulse, whether routine or creative, means choice of one alternative and

the exclusion of others. Literally, decision means cut. When we choose

one alternative to the exclusion of others, we are actually separating

this alternative from all others, cutting it off from the past, and making

a commitment to follow it into the future. We are breaking from the past

in order to alter the future, to follow one route rather than another to

achieve some desired end or future state.

Decision always involves exclusion and uncertainty. Decisions are

only possible when several distinct and mutually exclusive acts appear

available to the decision-making unit. If each possible alternative has

a certain outcome, and if all outcomes can be ordered according to greater

or lesser desirability, then the choice among alternatives will not involve

decision, but rather selection of that alternative which will produce the

most desirable outcome. Real decision occurs only when we cannot determine

with certainty the outcome of the alternatives, and when other alternatives

are excluded or limited by choice of one. ". . . if a decision is real

there can be no basis of a predictive theory of history, there can be no

reliable laws of historical cause and effect, nothing to tell the decision-

maker that if he presses this or that political or economic button the

consequences will certainly be just such and such" (Schackle, 1961, p. 271).

"Decision . . . is choice, but not choice in the face of perfect fore-

knowledge, not choice in the face of complete ignorance, . . . [but] choice

in the face of bounded uncertainty" (Schackle, 1961, p. 5). Uncertainty

in the decision process is bounded by information, perception, imagination,

expectation, and anticipation; in essence by our "humanness."

Decisions, which are events (Gibson, 1965, p. 6), occur as a result

of decision processes, which vary in complexity, rationality, length of

time and systematization. The variance in process is due (among other

things) to: the nature of the impetus or stimulus creating the need for
decision; the nature of the decision, the characteristics (combined or
individual) of the decision-making unit; the magnitude, importance, and
value of the decision to the decison maker(s); the state of the internal
and external environments of the system(s) making and being affected by
the decision; the availability of information and resources; and the
degree of uncertainty and risk accompanying the choice.

The decision process is an integral part of every human action system,
be it individual, informal group, or formal organization. The decision
process in the context of formal organizations (particularly educational
ones) is the grist for our mill.

The Decision Process in Organizational Context

Of necessity, decision processes in organizations are likely to
be more structured, more complex, and more formalized than individual
choice processes. The decision process is set in motion by an impetus or
stimulus creating the need for choice and/or departure from past behavior(s).
The decision stimulus can be anything from one man's curiosity to crises in
the organization's environment. An awareness of a need for action, apparent
problems, unresolved questions, conflicts, new information can all set
decision processes in gear.

Hopefully, organizational decision processes are somewhat systematic,
objective, and rational. Because organizational decisions are likely to
have far-reaching effects on the behavior of many individuals, as well as
the larger social system of which the organization is a part, the process
by which they are reached should combine rationality and creativity with

the "best" information and decision-making techniques available. A brief examination of a systematic organizational decision process will provide basis for further discussion.

A Systematic Organizational Decision Process

The organizational decision process usually involves problem finding, problem solving, and decision making. Decision making can only occur after alternative courses of action have been developed. Therefore, we shall attempt to outline a systematic process that results in decision, rather than focus only on the decision making or choice aspect. In other words, we view decision making as a final aspect of a more inclusive decision process including: (1) recognizing the need for decision, (2) specifying preliminary objectives (including a criterion component) for the decision to be made, (3) searching for the "real" problem and/or needs, (4) specifying the problem and/or needs and redefining the decision objectives, including criteria (if necessary), (5) gathering information, (6) organizing and communicating the information, (7) analyzing the problem and/or needs in light of information, (8) respecifying decision objectives and criteria (if necessary), (9) generating possible alternatives, (10) evaluating possible alternatives and examining probable consequences of each, (11) testing each of the alternatives against the decision criteria, (1   - mining the acceptability of each of the alternatives to those in   d effected, and finally, (13) making a choice (decision). (Some p   d include the implementation of the decision in the basic process, focus is on the process leading to the choice.)

1. _Recognizing the need for a decision._ The need for a de.

usually prompted by a dissatisfaction with some existing state or with the

prospect of a probable future state. That is, a change in the current

course of action must be made to promote a more acceptable present and/or

future state. The dissatisfaction can be felt by elements inside the

system and/or outside the system. Action results most quickly when the

decision stimulus is experienced by those holding decision-making power.

Sometimes, those who have the authority and/or power to initiate the process

that will result in a decision to change are slow to sense states of dis-

satisfaction.

Most "established"* organizations or systems lack "change" sensitivity.

Age (in most systems) carries with it desensitizing agents; for that reason

some type of monitoring system is essential. A sensor mechanism built into

an organization, in the form of a planning or change committee, is one way

of building change responsiveness into the organization. Whatever the

monitoring mechanism, there must be a flow of information into the decision-

making mechanism of the system about the system and its environment, about

the operation of the variables related to the outcomes specified through

the value system (Gibson, 1965, p. 7). The "impetus" for change must be

within the vision of the individuals who are responsible for intiating

decision action. Many of the demonstrations of the 60's and 70's can be

considered as attempts to get organizational decision makers to recognize

states of dissatisfaction and the need for change decisions.

2. Specifying a goal or desired end state to be reached as a result

of the decision(s). Assuming recognition of a need to act to "improve"

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*By established, we merely mean those older organizations who have
been operating long enough to have formed "organizational habits of
behavior" that are supported by rules and regulations.

present or possible future conditions, policy objective(s) that generally
describe the end state to be achieved through the actions resulting from
ensuing decisions must be specified. This initial definition of a desired
end state must be general in nature, yet give a clear indication of the
criteria that will "indicate that the problem has been resolved or the
need met." It must not limit the analysis of needs or problems or the
generation of alternatives. For example, a college president recognizes
the need to deal with student dissent. His policy statement, which sets
the framework for the decision maker, may read, "Within the next two years
we must eliminate violent student dissent, and learn to deal constructively
with nonviolent dissensions." This statement sets a time frame, specifies
the problem area (dealing with student dissent) and the desired end states
without limiting the analysis of the problem or the development of alterna-
tive solutions.

From this general statement of purpose, more specific objectives can
be defined later in the decision process.

3. Locating the problem in an environmental and organizational
context. Considerable time should be spent on exploring, choosing, and
isolating a starting point for assessment of the status quo. This often
requires the suppression of the natural tendency in individuals to gravitate
toward solutions (Maier, 1963, p. 50). Finding the "real" problem to be
resolved or assessing the needs is a step many decision-making units fail
to recognize. The general problem area specified in most goal statements
is not sufficiently refined to permit systematic analysis. Before analysis
begins, the problem must be located in both an environmental and organiza-
tional context, and within a decision-making unit's sphere of influence.
Using our example of student dissent: Is the problem really student dissent,

or is this a manifestation of deeper-rooted problems both within the
university system and in larger environment? Maybe the problem is not
student dissent so much as it is outdated educational policies of the
university.

4. Specifying the objectives and decision criteria. Once the problem
area or needs have been identified, the specific needs that must be met as
a result of the decision can be stated clearly and concisely. The statement
of objectives can effect the manner in which the problem or needs are
explored, the alternatives developed, and the decisions made. This initial
statement of objectives serves as the communication referent for all
phases of the process, as well as all members of the decision-making team.

One of the most important aspects of specifying objectives is the
development of criteria against which the alternatives can be tested and
the final decision evaluated.

5. Gathering information on the problem and its context. All members
of the decision-making unit must have a common body of knowledge from which
needs assessment and problem analysis can proceed. A knowledge bank of
relevant, timely, and accurate information must be created. Modern informa-
tion storage and retrieval systems are a boon to this phase of the decision
process.

6. Organizing and communicating information. Information is valuable
only if it can be brought to bear in the next phases of the decision process.
Organized and diffused in a manner conducive to utilization, information
both on the decision situation and possible alternatives provides decision
makers with a foundation for action.

7. Assessing and analyzing the situation requiring decision. The
analysis of the situation requiring decision begins with an examination of

relevant information. This in-depth analysis of needs and/or problems will provide the basis for the development of alternatives from which the final choice will be made. The effectiveness of the final decision, then, rests heavily on the validity and reliability of this diagnostic phase.

8. Respecifying decision objectives and criteria. The decision objectives and criteria are, in turn, examined in light of in-depth needs assessment or problem analysis. This examination may lead to a respecification of objectives and criteria.

9. Generating alternatives. Generating alternatives from which to choose in the final decision involves separating idea generation from idea evaluation. Generating possible alternatives involves: invention, discovery, creativity, development, synthesis.

10. Evaluating the proposed alternatives. Evaluation of alternatives does not begin until the generating capability has been exhausted and all readily apparent possible alternatives have been proposed. The most probable alternatives are then culled from the field of possible alternatives. Final evaluation of probable alternatives is made against pre-established criteria, and does not take place until the methods-means, costs, and probable consequences of each satisfactory alternative have been estimated.

11. Testing against criteria. Each of the satisfactory alternatives is then compared to previously specified decision criteria to determine its ability to meet the objectives.

12. Determining "acceptability" of alternatives. In making any choice, it is valuable to know how those individuals who will be affected and responsible for carrying out the decision feel about each of the alternatives. The amount of commitment that can be made by individuals to each

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of the alternatives will, in part, determine the effectiveness of the
alternatives.

13. Decide. The decision-making body chooses from among thos. alterna-
tives that prove satisfactory, meet the prespecified decision criteria,
and are acceptable to those concerned. The decision should be put in
writing to serve as a communication referent for further decisions and
implementation activities.

The decision process includes diagnostic processes, developmental
processes, and analytical choice processes.

The Value of Collective Decision Making
in Organizations

The decision process is affected by the decision-making structures
and mechanisms of the system. Most systems have established structures
specifying who makes what kinds of decisions, as well as elements that
facilitate or constrain decision making through control of information
and resource allocation.

The increasing options or courses of action available to organizations
in a modern, industrialized, and knowledge-oriented society make it neces-
sary to reassess decision-making structures and mechanisms. The social
pressures placed on both public and private organizations are certainly
far greater and more complicated than they were in the past. The complexity
of the social situation requires broader, more encompassing decision-making
structures. Group or decision-making collectivities within organizations
is one approach to restructuring organizational decision making with a
broader base. Taking decision-making power from the hands of individual
"powerful" bureaucrats and placing it with groups of individuals who can

coordinate their efforts to anticipate and find problems and/or needs, diagnose and analyze problems and/or needs, generate alternatives, evaluate alternatives, and exercise collective judgment in the choice of viable alternatives is one way of coping with complexity too great for any one individual to envision accurately.

Collective decision making can (does not necessarily):

1. Bring a wider range of information, reason, attitudes, opinions, and skills to bear in the decision. By increasing the number of individuals involved in the decision process, human biases and limitations can be partially overcome through the compensating strengths of the others involved. Small group research shows that when tasks require creativity, a broad information base, division of labor, and reduction of random error, groups are likely to be more effective than individuals (Collins and Guetzkow, 1964, pp. 24-58). Most policy and managerial decision making involves the aforementioned factors, and might therefore be improved through collective efforts. "It is impossible for the behavior of a single, isolated individual to reach any high degree of rationality . . ." (Simon, 1957, p. ?9); therefore, in the interests of improving rationality it may be wise to integrate several individuals in the decision process. Groups, by virtue of individual variance, are likely to see more aspects of a situation, ask more questions, obtain more information, and thereby have a better base for more effective decisions.

2. Increase positive involvement and motivation of organizational members. When members of an organization are committed to the goals and actions of that organization, they are more likely to expend their energies in constructive efforts to achieve those goals. Apathy or negative involvement on the part of organization members means low levels of energy output

(just enough) or energy directed toward the subversion of organizational
goals. Therefore, involving individuals through collective decision-making
structures may increase the amount of energy being directed toward organi-
zational goals. People who feel they are significantly involved in the
operation, management, and policy-setting structures of the organization
are likely to be better informed, more willing to accept organizational
decisions, and more motivated to see that those decisions are implemented
successfully. Participation in decision processes can increase the
individual commitment to and sense of responsibility for organizational
goals. "Joint decision making can be satisfying to the participants and can
lead to better organizational decisions . . ." (Applewhite, 1965, p. 65).

  3. Provide an environment for the constructive use of conflict.
Conflict and differences of opinion are essential to progress. A working
group provides a structure for utilizing conflict to produce better alterna-
tives and decisions. Conflict can motivate constructive thought and analy-
sis. Under the pressure of opposing points of view, individuals strive to
produce more and better quality information to support their positions.
Similarly, conflict can motivate a more careful analysis of available
information and more thorough appraisal of alternatives. Conflict, if
kept on a substantive level, can be a positive force for improved decision
making.

  4. Produce alternatives and/or decisions that are more closely
attuned to reality. By drawing from a wider range of perspectives there is
a greater probability that alternatives or decisions will more closely
reflect the complexities of the larger system and, thereby, be more
appropriate.

  5. Help overcome the narrow perspectives resulting from increased

specialization. We tend to perceive in light of that which we know. Our knowledge frames have become increasingly narrow. By bringing to bear an increased number of specialty knowledges in an interaction situation, the disadvantages of specialization are overcome and the advantages brought to fruition.

6. Equalize sources of influence and/or power. Decisions that result from group efforts mean power and influence distributed over a greater number of people. Why, you may ask, is there a need to distribute influence and power? Traditionally, the American value system has been individualistically oriented, giving free rein to individual enterprise. However, as the society becomes more complex, with increased interfacing of its parts, it becomes more necessary to assume a public or social viewpoint. That is, a new balance must be struck between individual rights and the public interest. One way of doing this is through collective decision making and action. When a decision affects the public, as most organizational decisions do, they should be made from a collective base. ". . . more and more decisions that could once be left to private decision makers because their effects were limited in impact and extent, must now be taken in public ways, by society as a whole" (Mesthene, 1970, p. 66). Collective decision-making structures are one way of ensuring more socially viable decisions.

7. Increase willingness to risk. Decisions always involve uncertainty. Uncertainty creates special obligations and possibilities for collective decision making (Zeckhauser, 1969, pp. 149-166). Groups have been found to take greater risks than individuals (Applewhite, 1965, p. 66), probably because the risk can be spread among members of the group. Decisions for change and progress contain considerable risk and are,

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therefore, more likely to be made if a group shares responsibility for them.

The collective decision process in organization offers improvements over individual decision making only if: (1) "scientific," systematic, rational behavior is encouraged in addition to emotional involvement; (2) those involved feel the problem and decision before them is significant; (3) the group decision is valued and implemented; (4) the nature of the problem requires alternative insights; (5) individuals involved bring varying skills, attitudes, and opinions to bear; and (6) time permits.

Because more than one individual is involved, most decision-making groups can benefit from management designed to coordinate, guide, and stimulate creative group processes. The interaction involved in group activities brings with it problems that don't arise when individuals work on their own.

Sometimes work groups are able to function without much guidance and/or control from a group manager. Most often, however, there are times in the life of all work groups that a group manager can intervene to ensure maximum production for the amount of effort being devoted to the task. Breakdowns in communication, interpersonal conflict, ambiguity of direction, poor work environment are some of the problems that a group manager can help overcome. Guidelines for managing group processes are offered in Chapter IV. There is also an Appendix that offers a series of propositions drawn from small group research that can provide insights into how to: construct decision groups, analyze performance problems, avoid problems before they arise, and promote effective communication. These research propositions can also help individuals set "realistic" expectations about group decision processes.

Organizational decision-making structures, whether individual or

collective, interact with many other factors to influence the organizational decision processes.

Factors Influencing the Organizational Decision Process

Many variables interact to affect the decision process in an organization: the nature of the problem and the type of decision required, the characteristics (combined or individual) of the decision-making unit, the state of the internal and external environment, the availability of information and resources, the magnitude or value of the decision to the decision-making unit, etc. In fact, it is difficult to accurately envision the web of variables and their interrelationships as they operate in the organizational decision process. Even the most complex conceptual models of the organizational decision process are a gross simplification of reality. The following discussion represents an even more limited view of the subject, but hopefully offers some insights into some of the more important factors that should be taken into consideration when undertaking the task of improving a system's decision processes.

Types of Organizational Decisions

Within most organizations it is easy to discern three broad categories of decisions: (1) policy decisions, (2) managerial decisions, and (3) operational decisions. The differentiation between categories results from the significance of the decisions for organizational structure and functioning. The variance in the significance of the decision is a variable

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influencing the amount of time allotted, the process followed, and often
the number and kind of people involved.

Policy Decisions

In most organizations, the legislative and executive bodies of the
organization hold sway over those decisions determining the basic course(s)
of action an organization will take, or the policy-making functions of the
organization.

"Organizational policies are abstractions or generalizations about
organizational behavior, at a level which involves the structure of the
organization" (Katz and Kahn, 1966, p. 259). Policy statements can be made
either retrospectively as recognitions of existing practices, or as state-
ments of what organizational behavior shall be. It cannot be said that a
policy decision has been made when a policy statement is issued after the
fact. Changes in policy due to the cumulation of day-to-day managerial
and/or operational decisions do not involve decision. Policy recognition
involves only the decision to formally recognize what is.

Policy decisions occur as the result of organization efforts to
determine future courses of action. They deal by nature, with what will
be. They form the basis of strategic planning. There are basically two
types of policy decisions: (1) those concerned with the formulation of
substar t've goals (the ends) and (2) those concerned with the formulation
of the procedures and devices for achieving goals (the methods-means) and
evaluating performance.

Policy Decisions on Goals and Objectives--What. Policy decisions on
organizational goals and objectives are guides to future organizational

behavior and decisions. They specify what the organization is a⁺   ,
the end states to which organizational efforts can be directed.   oal-
formulating decisions . . . must be general enough to transcend .   fic
case; they must hold over time for many cases; and they must aff₁   ,-
stantial part of organizational space of structure" (Katz and Kahn   ',
p. 260). For example, the decision of a school board to set "ze₁   's"
as part of its educational policy affects substantial elements of
educational space and structure.

Policy Decisions on Procedures and Evaluation--How. Policy decisions
on methods and means are basically decisions on the general strategies for
attaining organizational goals. These are the general rules or guidelines
that: (1) commit an organization to follow a particular path toward
achieving its goals, (2) determine how the organization handles external
problems and meets internal ones, and (3) assesses progress towards goals.

For example, two school districts may have the same objective of
racial and ethnic integration; one school may have made a policy decision
to use busing as their basic strategy for achieving the desired end state,
while the other may have decided on a strategy of reorganizing school
programs and spaces to achieve integration.

Policy decisions on procedures and evaluation determine "how" the
organization goes about determining and achieving its ends and "how" these
efforts are evaluated. For example, a decision to incorporate planning
techniques and systems analysis as a means of ensuring a more change-
responsive organization is a procedural policy decision. The decision to
use verifiable performance objectives as a means of evaluating progress is
an example of a procedural decision in the area of evaluation.

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Policy-level decisions alter or adjust the basic organizational ends and methods-means in light of internal and external environments. Because they are the fundamental supports of the organization, policy-level decisions are more likely to require complex and varied resources (information, people, opinions, etc.), considerable time and more complex processes. They are more difficult to change once established, as they form the underlying structure of the organization and must be made and put into operation carefully to prevent organizational chaos.

Managerial Decisions

Policy decisions must be translated into action. Managerial decisions are choices that must be made as a result of available alternative avenues to achieving the desired end states specified in policy decisions. Managerial decisions guide, direct, administer, and control organization efforts to reach organizational goals. They translate generalities into specifics by selecting the program, project, and performance objectives that will most likely achieve the policy goals and objectives in the most efficient and effective manner possible.

Managerial decisions determine what and how the parts of the organization will contribute to the total organization's goals and/or objectives.

Where policy decisions affect organizational structures, managerial decisions affect their functions. ·

Operational Decisions

Once the organizational inputs and processes have been set in motion there are decisions that must be made to keep organizational performance in

line with standards specified for that performance. These may be relatively simple decisions involving only routine administration or application of existing policies to on-going operations, or more complex decisions involving considerable organizational risk.

Operational decisions are action decisions made at all levels of the organization. They range from a teacher's decision to show a movie to a school board's decision to fire a teacher.

Operational decisions can be thought of as choices that keep the organization on the "right" course. Timing is a critical factor in determining the effectiveness of operational decisions.

In order for individuals to make appropriate operational decisions, they must have knowledge of the course of action and knowledge of the standards of performance required to achieve organizational goals and objectives. Further, the individuals making these operational decisions must have confidence in both the ends and the means if the operational decisions made are going to facilitate achievement of the end state.

Operational decision situations raise the question of how much can be decided without consulting with a higher level of control and authority.

Decision-Making Cycle

Policy, managerial, and operational decisions are tied together in a continuous cycle of decision making with each influencing the other through reciporcal feedback loops (Figure 1). It cannot be assumed that influence is always exerted in a top-down manner. Operational decisions are often vital variables in policy and managerial decisions; at times, determing the course of higher level decisions.

-42-   48
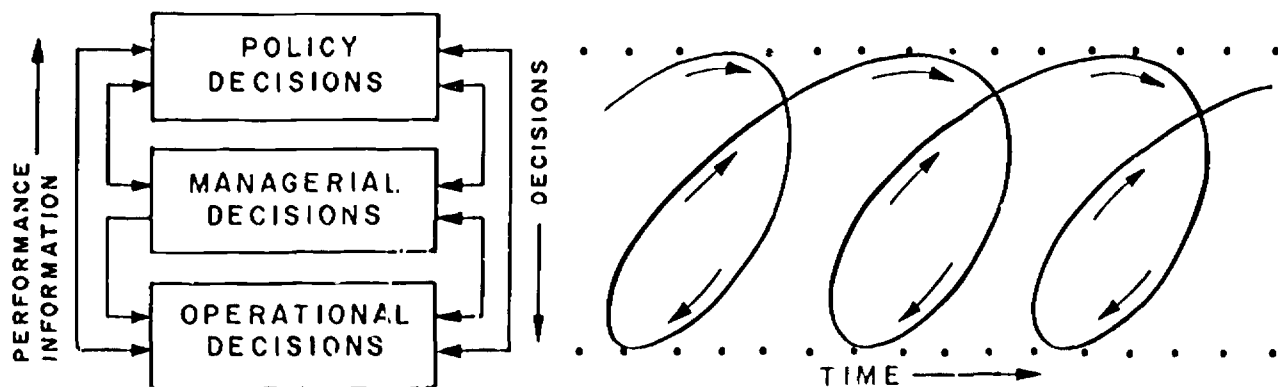
Figure 1: Decision Cycle, after Timms, 1967, p. 60.

The type of organizational decision being made often influences the
process through which it is arrived at. Operational decisions are often
made on the basis of individual assessment and discretion within a short
period of time, while managerial and policy decisions usually result from
collective efforts over a longer time frame.

Closely related to the types of decisions are the dimensions of the
decisions which also influence the process by which they are reached.

Dimensions of a Decision

Katz and Kahn (1966, p. 259) suggest three dimensions of a decision:
(1) level of generality or abstraction, (2) the internal and external
aspects of the organization affected (area of impact), and (3) the duration
of decision. These three aspects of a decision help determine its "weight"

and organizational importance, thus influence the "care" and the process
by which the decision is reached.

Level of Generality or Abstraction

The level of generality or abstraction is often highly correlated with
the type of decision being made--policy, managerial, or operational. Deci-
sions reflecting a middle-range generality probably require the most
thorough and detailed diagnostic, developmental, and analytical choice
processes. It is at this level that detailed analyses of and comparisons
between alternatives are made.

An extremely general or abstract statement of policy, such as "Our
policy is to contribute our very best to facilitate student self-develop-
ment," probably does not result from a detailed and/or systematically
analytical decision process. However, as the necessary decisions are made
to translate this policy into action, a more systematic and involved process
is likely to be followed. Perhaps organizational decision making would be
improved if a more systematic approach to policy making were adopted.

Area of Impact

The amount of internal and external organizational space affected by
the decision also influences the decision process. The area of impact can
indicate the number and kinds of people that should be involved in the
decision process. For example, important policy decisions in a school
affect both large amounts of internal and external space. Therefore, when
making such decisions, it might be wise to include representatives from
both within the organizaion and those in the larger school community.

Duration of the Decision

The length of time for which a decision will hold is also an influen-
tial variable. Decisions that are binding on organizational efforts over
long periods of time are probably made with more care than those that hold
only temporarily.

It is difficult to isolate the dimensions of a decision and make
meaningful statements about the influence of each on the decision process.
Realistically, it is the interaction-influence of all three dimensions in
concert that affect the process by which the decision should be or is
reached.

The Decision Environment

The decision environment forms the frame of reference for the decision.
All decisions have purpose, but this purpose can have no meaning unless
defined in terms of an environment. The environment of decision consists
of:

> . . . atoms and molecules, agglomerations of things in motion,
> alive; of mind and emotions; of physical laws and social laws;
> social ideas; norms of actions, of forces and resistances.
> Their number is infinite and they are always present. They are
> also always changing. They are meaningless in their variety
> and changes except as discriminated in the light of purpose.
> They are viewed as static facts, if the change is not signifi-
> cant from the viewpoint of purpose, or as both static and
> dynamic facts (Barnard, 1964, p. 84).

The decision environment is so complex that certain facts are, by virtue of
their complexity or distance, immaterial and/or irrelevant. Certain aspects,
however, are relevant in that they will either facilitate or hinder the
achievement of the objectives defined by the decision.

> As soon as that discrimination takes place, decision is in
> bud. It is in the state of selecting among alternatives.
> These alternatives are either to utilize favorable factors,
> to eliminate or circumvent unfavorable ones, or to change
> the purpose. Note that if the decision is to deal with the
> environment, this automatically introduces new but more
> detailed purposes, the progeny, as it were, of the parent
> purpose; but if the decision is to change the purpose
> rather than deal with the environment, the parent is sterile.
> It is abandoned, and a new purpose is selected, thereby
> creating a new environment in light of that purpose (Barnard,
> 1964, p. 84).

The decision environment of educators is most often prespecified by
traditionally oriented, socially and conservatively accepted norms, allow-
ing little room for choices involving the creation of a new environment for
educational decision making. Educational decisions and the resulting goals
and objectives are made in light of a "current" environment defined for the
most part by the realities of operation in a political process. The
pressure of the environment (both internal and external) influences (not
always for the better) the process involved in reaching decisions.

Immediate pressures can mean immediate solutions with little analysis
of the problem and no comparison of alternative solutions. An impending
crisis can short-circuit the decision process, causing actions to be taken
without careful analysis of the problem or consequences of the solution.
Katz and Kahn (1966, p. 275) cite an example of this.

> An example of a poor assessment of a problem and its consequences,
> made under such conditions of urgency, can be found in the actions
> of the Chancellor and the Board of Regents at a state university.
> These decision makers were faced with a possible witch hunt by a
> legislative committee. By imposing a special loyalty oath on all
> members of the faculty, the top administration hoped to forestall
> the investigation and prevent more repressive measures from the
> state legislature. But they failed to analyze the nature of the
> problem and to anticipate the consequences of this decision.
> Though the immediate faculty revolt which ensued was squelched,
> the divisionism within the university community and the reaction
> of the academic and scientific world seriously damaged the univer-
> sity for a number of years.

The urgency of the felt need and the amount of pressure either from internal
or external sources can influence the decision process and the quality of
the resulting decision.

Internal Characteristics

System characteristics such as organizational patterns and structures,
management philosophies, and attitudes of system members influence and are
influenced by the decision processes of the system. These factors might
all be lumped under the title organizational climate. Taguiri and Litwin
(1968, p. 27) define this concept as follows:

> Organization climate is a relatively enduring quality of the
> internal environment of an organization that (a) is experi-
> enced by its members, (b) influences their behavior and (c)
> can be described in terms of the values of a particular set
> of characteristics (or attributes) of the organization.

We might think of a value climate, interpersonal climate, and a task climate
in which the leadership style followed in the organization or in parts of
the organization influences the methods of making decisions, as well as
who participates. The amount of structure, type of performance standards
set, delegation of responsibility, motivation techniques, amount of
supports, manner of dealing with conflict, amount of risk and involvement
tolerated or encouraged, and organizational spirit (trust, good fellowship),
all are dimensions of organizational climate that affect and are affected
by decision processes. The congruity and/or compatibility of organizational
elements and leadership styles are also influential variables.

The Interaction Effect of the Collective Decision-Making Unit and the Organization

Collective decision-making units within a larger organization can be

thought of as micro-systems within a macro-system. The degree of congruity and compatibility between the structural norms and styles of the organization and those of the collective decision-making units influence the performance of the decision-making units and in turn the quality of their decisions. Using Golembiewski's (1965, pp. 91 and 102) diagrams of the interrelationships between small groups and organizations (Figure 2), we can begin to see how the congruence of small group and organizational structure and style influences group performance. For example, in a decision-making group in which there is high consensus among members with respect to group norms, but low integration between the group structure and style and that of the organization, there is likely to be a low output from the group. Where there is high group consensus and high structural and style integration between the group and the organization, output is also likely to be high. The satisfaction of the participating members also varies in terms of the group output and the structural and style integration of the group and organization. Ideally, we are seeking optimum output and individual satisfaction.

External Characteristics

Most organizations exist within larger social systems in reciprocal interaction-influence relationships. The stresses and strains in the larger environment as well as the lack of them affect the needs for and process of decision within the organization.

As public service organizations, educational systems must be extremely sensitive to the happenings in the external environment.

In one respect the decision problem in private organizations is much simpler than in public agencies. The private organization

CHARACTERISTICS OF THE SMALL GROUP

HIGH
CONGRUENCE

PERMISSIVE —— HIGH COMPATIBILITY
Non-authoritarians dominant

DIRECTIVE —— HIGH COMPATIBILITY
Authoritarians dominant

HIGH —— HIG
CONSE

LEADERSHIP[1] GROUP ATMOSPHERE PERSONALITY CHARACTERISTICS COHESIVENESS[2] NOI

LOW
CONGRUENCE

DIRECTIVE —— LOW COMPATIBILITY
Authoritarians
strongly represented

PERMISSIVE —— LOW COMPATIBILITY
Non-authoritarians
strongly represented

LOW —— LO/
CONSEI

*HIGH STRUCTURAL INTEGRATION PLUS HIGH STYLE IN

DEFINITIONS

1. LEADERSHIP--Individual prominence aiding group attainment and sociability.

2. COHESIVENESS--Prestige of membership; prestige of task; liking of members.

3. STRUCTURAL INTEGRATION--the congruence of group structure and formal organization structure, as measured by congruence of rank on informal leadership and formal rank.

4. STYLE INTEGRATION--Congruence of group norms and formal expectations, policies, and procedures, as measured by output and participant satisfaction.

Figure 2: A Simplified Model of the Small Group in an Organizational Context

THE SMALL GROUP FUNCTIONING WITHIN AN ORGANIZATION

HIGH CONSENSUS

HIGH ——— HIGH ——— HIGH*

LOW ——— LOW LOW

| NORMS | STRUCTURAL INTEGRATION[3] | OUTPUT | STYLE INTEGRATION[4] | SATISFACTION |

LOW CONSENSUS

HIGH ——— HIGH ——— HIGH

LOW ——— LOW ——— LOW

;H STYLE INTEGRATION ➡ OPTIMUM TASK AND SOCIO-EMOTIONAL PERFORMANCE
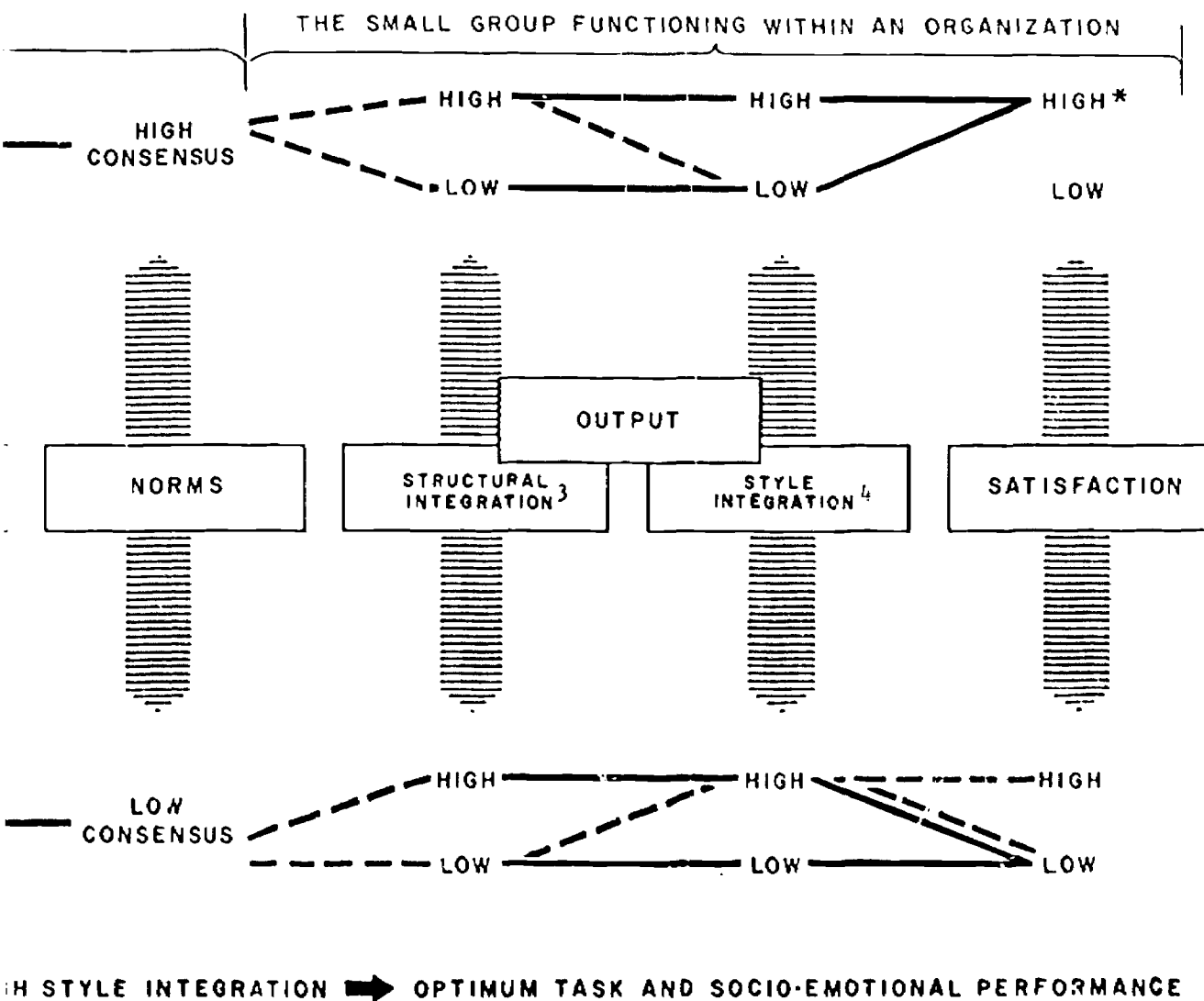
ial Context (Adapted from Golembiewski, 1965, pp. 91 and 102).

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is expected to take into consideration only those consequences
of the decision which affect it, while the public agency must
weigh the decision in terms of some comprehensive system of
public and community values (Simon, 1947, p. 69).

The socio-economic aspects of the community serviced by the school,

such as level of education, types of occupations, the degree of hetero-

geneity, economic status, political attitudes, values held in esteem are

factors that interact with educational decision processes. The amount and

kinds of resources available to educational decision makers from the

external environment further affect the decision process. Community

climate, including the degree of conflict or stability in the community

and the degree of passivity or activity of community members in community

organizations, is another influencing factor.

The environmental characteristics entering into the functional aspects

of organizational decision making are numerous. We have highlighted a few

of the variables that can be influential and at the same time managed to

improve the effectiveness of organizational decisions.

The Degree of Uncertainty and/or
Risk Accompanying the Decision

Decision making is often an uncomfortable experience. The discomfort

stems from the fact that situations often require action when it is impos-

sible to analyze what will happen as a result of choosing any given

alternative. There exist three knowledge states of choice-outcome rela-

tions (March and Simon, 1959, p. 137).

    (a) Certainty: It is assumed that there is complete and accurate
        knowledge of the consequences of each choice.
    (b) Uncertainty: The consequences of each choice cannot be
        defined by a correspondence relationship even within a
        probabilistic framework.

(c) Risk: It is assumed that accurate knowledge about the
probability distribution of the consequences of each
alternative exists.

The decision process is influenced by the perceived degree of certainty

about the choice-consequence relationships of the available alternatives.

For example, if the decision maker(s) assume that complete and accurate

knowledge and information is available, they are likely to spend far more

time in gathering that information than decision makers who assume an

uncertain condition. Uncertainty in the decision process means decision

makers must be more inventive, using only the rough guidelines of skill

and experience as aids in making the decision. Of necessity in cases of

uncertainty, the decision process must always be more intuitive than when

risk can be calculated or certainty is present.

The more uncertainty involved in the decision process the more likely

greater numbers of people should be involved in the process. There is a

need for more collective action in the face of unknowns, a need to spread

the risk involved in making decisions for the future.

The Human Element

We are still operating in an age where most decisions, other than the

most routine, are made by human beings, either individually or collectively.

This means that the "pre-decision sets" (including sex, intelligence, social

status, education, motivations, beliefs, thinking patterns, degree of self-

direction, etc.), as well as the immediate emotional-physical state (such

things as anxiety, pain, anger, fatigue, sense of involvement) of the

decision maker when involved in the decision process influence the decision

process as well as the final decision (Dror, 1968, pp. 78-79).

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Predecision Sets

The human decision maker brings to a decision situation a whole set
of complex and interacting factors that influence the process by which
he reaches decisions.

1. Position in Social Space. We all occupy a social space within a
time frame. At different times we hold different positions in social
space. The combined effect of past, present, and future social statuses
affects the knowledge, experiences, attitudes, and judgments of the human
decision maker. Position in a system or systems helps determine the amount
and kind of knowledge we have and the standards and processes of judgment
for evaluating that information. For example, by virtue of their "posi-
tions," a school principal and a school board member are exposed to
different knowledge inputs (a principal is likely to have more access to
student opinion and the school board member more access to political
opinion) and use different criterion for evaluating decision alternatives.

2. Selective Attention, Perception, and Retention Mechanisms.
Because the number of stimuli confronting the average human being are so
great, he develops habits of selective attention, perception and retention
influenced by his attitudes, opinions and beliefs, as well as social rela-
tionships. We hear, see, remember, believe what we want to hear, see,
remember, believe. The human decision maker brings his selective mechanisms
with him to the decision situation. These affect not only his basic being,
but his evaluation of the information presented in the decision process,
and his eventual choice.

3. Projection Mechanisms. Human beings have the tendency to project
their own feelings and beliefs to others. This most often happens in the

absence of knowledge about the others. A decision maker(s) confronted with decision situations involving individuals highly different from himself (themselves) should find out as much as he (they) can about those individuals before making decisions, in order to avoid filling in knowledge gaps with his (their) own predispositions.

4. <u>Thinking Patterns</u>. Each decision maker carries within him habitualized thinking patterns. Certain thought patterns such as: global or undifferentiated thinking, dichotomized thinking (either-or), cognitive nearsightedness, and oversimplified notions of causality can operate as hindrances to effective decision making.

5. <u>Education</u>. Certainly the kinds of learning experiences in which the decision maker has been and is involved affects his approach and viewpoints in decision situations.

6. <u>Motivation</u>. People are motivated by different needs, the need to achieve, the need for affection, the need for power, etc. These factors influence individual behavior in the decision situation. For example, individuals motivated by the need for affection are more likely to consult with and seek the advice and approval of others in making decisions than those motivated by a need to achieve.

7. <u>Openness of Belief Systems</u>. Rokeach's research into the openness and closedness of individual value and belief systems indicates that the closed systems cause individuals to adhere <u>rigidly</u> to established values and beliefs. Such individuals in decision-making situations are likely to take extreme positions and permit little influence on their thinking and/or judgments.

8. Degree of Rationality.* Individuals also vary in the amount of
rationality they bring to bear in decision making. The logical order with
which an individual diagnoses and analyzes problems is something he brings
with him.

These are but a few of the factors affecting the predecision set of a
decision participant. The individual comes to the decision situation with
certain skills, talents, creative abilities, analytical abilities, plus
pressures from norms and values of significant others and significant
reference groups. These predecision set factors all affect not only the
final decision, but the kinds of information brought to bear and the kinds
and amounts of alternatives generated.

State of Decider at Decision Time

"The decision making process is significantly influenced by the
emotional-physical state of the decider while he makes the decisions . . ."
(Dror, 1968, p. 78). A decision maker feeling tired and hungry is hardly
able to exert his best attention and efforts on the issue at hand. Decision
makers embroiled in heated emotional arguments are hardly likely to make
rational assessments and judgments. Pressures of the moment whether they
result from frustrations of coping with daily life or poorly controlled
temperatures in the work space all influence decision making to some
degree. Basically, the emotional-physical state of the decider influence
his degree and kind of involvement in the decision process.

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*Rationality is discussed more fully in the following chapter.

Limits . . . But

> Man's decisions are limited by his humanness.
>
> Man lives in an environment about which his information is highly
> incomplete. Not only does he not know how to evaluate many of
> the alternatives facing him, he is not even aware of a considerable
> percentage of them. His perceptions are relatively limited; his
> powers of calculation and accuracy are less than those of a compu-
> ter in many situations; his searching, data processing, and memory
> capacities are erratic. As the speed of transmission of stimuli
> and the volume of new stimuli increase, the limitations of the
> individual become more marked relative to society as a whole.
> Per se there is no indication that individual genius or percep-
> tions have changed in an important manner for better or worse in
> the last few centuries, but the numbers of humans, the size of
> the body of knowledge, and the complexity of society have grown
> larger by orders of magnitude (Shubik, 1967, p. 772).

As numbers of people grow, amounts of knowledge increase, the pace of

change becomes more rapid, the individual is less likely to be in a position

to exercise free, reasonably well-informed, rational individual choice con-

cerning much of his freedom (Shubik, 1967, p. 778).

Even within the framework of increasing human limitations (increasing

in the sense that society is becoming more complex), the human element

must not be lost. The communications and computer technologies that aid

in obtaining and analyzing information must be harnessed to preserve and

extend the role of human beings in decision making, not subsume it. The

creativity and emotion of man are necessary ingredients in decisions that

are responsive to man's needs.

The Decision Product

Decisions are the products of decision processes. How can we determine

whether these "products" will do the job for which they were made? Many

situations about which decisions are made are sufficiently complex to

preclude classifying decisions as correct or incorrect, right or wrong,
good or bad. Decisions determine future courses of action, and the best
test or evaluation of a decision is made in terms of results after implemen-
tation. Initial and in-process assessments of decision effectiveness are
useful only in that they can help prevent implementation problems and
promote action effectiveness.

Quality and Acceptability of the Decision

The objective quality of the decision as an appropriate response to
the change needs of the organization is mediated by the acceptability of
the decision to those persons who must carry out the actions implied in
the decision.

The importance of separating these two dimensions of a decision
becomes apparent when we realize even when a decision is inherently sound
as a response to change needs, it will have varying degrees of effective-
ness dependent upon the degree to which the executors of the decision
understand and are committed to carrying it out.

Therefore, we might say that an effective decision (ED) is the
product of its: (1) quality (Q) or objective nature; and (2) acceptability
(A), attractiveness or desirability to persons who must work with the
decision* (Maier, 1963, p. 16).

$$ED = Q \times A$$

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*As we pointed out earlier, participation in the decision process
can promote greater acceptability of the final product.

Desirable Characteristics of a Decision Product

Several measures can be taken to ensure that once a decision has been made it can in turn serve as a communication referent and guide to action. Any organizational decision affecting the future action of the organization or any segment thereof should be put in writing. This written decision product should:

1. Be specified in clear, cogent, and concise terms.

2. Include a time specification that indicates when the decision is to be put into effect, and if possible, how long it will remain in effect.

3. Specify necessary and possible action(s) that need to be taken.

4. Define the expected outcomes resulting from its implementation.

5. Outline the rationale for its selection as the most appropriate alternative.

6. Be consistent with the goals and objectives of the program or organization.

7. Define the responsibilities of all individuals involved in the implementation of the decision.

8. Specify the conditions, limits, and constraints that may be involved in implementing the decision.

9. Anticipate possible side effects of the decision and indicate possible procedures for dealing with these effects.

10. Detail the criteria to be utilized in evaluating the effectiveness of the decision after it has been put into effect.

11. Indicate follow-up meetings to permit a reexamination of the decision after it has been implemented to determine whether it is yielding the desired results.

Failure to envision a decision as a communication referent can mean inefficiency and ineffectiveness in implementation.

Improving Organizational Decision Making
in Educational Systems

It is obvious that many of our educational systems are in trouble.
The majority of choices that have been and are being made are often
inappropriate responses to the needs of the students and the larger society
that the educational systems serve. If we are going to maintain publicly-
supported educational systems that attempt to serve the widely-varied and
complex educational and social needs of our society, then we must improve
the quality and acceptability of educational decisions. Promoting change
in educational decision-making structures and processes is one avenue to
more effective educational decisions.

The variables influencing organizational decision processes, particu-
larly public organizations, are numerous and difficult to isolate. They
are woven in an interaction-influence process pattern difficult to unravel,
and therefore difficult, but not impossible, to manage, change, and
improve.*

Several pages ago, it was suggested that in order to be effective, a
decision had to be an "appropriate" response to the change needs of the
system, as well as acceptable to the members of the system who were
affected by the decision and/or responsible for translating the decision
into action. Altering the decision-making structures by which educational
decisions are made and harnessing influential decision variables to work
toward improved change decisions are two ways of improving the quality and

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*The preceding discussion of influential decision factors did little
in the way of indicating the complexity of the interaction effects due to
continuous process.

acceptability of the decisions shaping the future of our educational

systems.

Improving Decision-Making Structures

Who should be involved in making education decisions? The answer to

this question should vary.

1. Educational decision-making structures should permit variance and

flexibility in composition. The variety of needs and problems confronting

most educational decision-making units is constantly increasing in scope,

while at the same time the typical local school board and superintendent

decision-making structures of most school districts remain somewhat limited

in response capability. That is, due to the fixed nature of many educa-

tional decision-making units (like local school boards) the knowledge and

skill capability of the unit remains limited. The knowledge and skill

capability of a decision-making unit can be increased by expanding the

contributing membership of the group. A "floating" dimension that changes

with the decision situation confronting the decision makers is one way of

building in variance and flexibility. The structure of the decision-making

unit is then able to change as the needs of the decision-making unit change,

while maintaining a central core for continuity and integration in system

decision making.

2. Educational decision-making structures should maximize "differenti-

ation" and "unification." Decision-making units should make possible the

presentation of a plurality of facts, values, norms, and action alternatives

(differentiation) and a unified resolution which incorporates as much

variance as possible. "A complex problem is likely to give rise in

discussion to a variety of contradictory factual reports, differing values

and norms, and conflicting suggestions for action. An adequate decision

will have to note and embody most of the contradictory material and also

relate it to the previous commitments of the group; but this is possible

only through an intricate process of combination, evaluation, modification,

and elimination" (Diesing, 1962, p. 178). A decision-making structure is

differentiated when knowledge, skill, and power are widely and evenly

distributed, maximizing the participation potential of many different

ideologies. Unification results from mutual understanding, identification,

openness, empathy, and trust. Unification within decision-making structures

is likely to stem from toleration rather than complete identity. "Tolera-

tion is an incomplete form of unification; it consists of accepting the

divergent beliefs and roles of others as valid . . . without taking them up

into one's own ideal self. It is based on partial unifications and condi-

tional loyalties, that is, on a feeling of underlying identity combined with

a recognition of continuing . . . differences among group members" (Diesing,

1962, p. 185).

There is a tendency within established ways of structuring educational

decision-making units to promote either extreme differentiation and extreme

unification, neither of which results in effective decisions. When decision-

making groups are being formed (either by election or selection), efforts

should be made to find individuals with differing, representative viewpoints

who have demonstrated a willingness to work in cooperative ways to improve

educational decisions.

   3. Educational decision-making structures should be designed to

encourage a free flow of relevant, timely, and accurate information and

communication. "The diffuseness of the decision apparatus in education

(over which it is not proper to superimpose a simple kind of hierarchical
structure for conceptual purposes) means the development of systems to
provide required information for each class of decision making may be a
complicated task, but it is a very important one. Contrary to some opinions,
it is not useful to have all the information about everything in one place.
Relevance is an important variable in determining how much information flows
among points in a network. So ultimately, some kind of structure will have
to be developed for designing the needed flows" (Adelson, 1968, p. 240).
Educational decision makers frequently make decisions without adequate
recourse to the related experiences of others, without adequate information
on the state of the art, and without an extensive understanding of the
implications of the alternatives (Adelson, 1968, p. 244). There is no need
for such conditions to exist. Information systems permitting ingestion,
digestion, dissemination, and interpretation are within our technological
design capabilities.

Designed information and communication networks are absolute necessi-
ties if we are determined to make the most effective educational decisions
possible. These information and communication networks must connect all
aspects of the system--administrators, students, teachers, knowledge
specialists, community members, etc.--in such a manner that appropriate
information flows and communication occurs between all elements in the
system.

Improving the Decision Process

1. Educational decisions should be made in terms of carefully derived
and clearly specified policy objectives that are subjected to continuous

scrutiny for relevancy and validity. Most of our educational organizations operate without the aid of policy objectives stated in verifiable performance terms. As a result, a holistic perspective of the interaction-influence of decisions can never be achieved. If a frame of reference for future policy, managerial, and operational decision making is established in verifiable performance terms through the specification of clearly-stated policy objectives, then educational decisions can be made in terms of their relationships to overall educational goals and objectives as well as in terms of their relationships to each other. Clearly, educational decisions made to further specific desired end states will provide better direction for educational programs, be easier to evaluate in terms of effectiveness, ensure more careful allocation of resources, etc. It will also be easier to demonstrate to affected members of the system why certain decisions were made. For example, if a school board can show specifically how their decision to run a summer workshop program for teachers, emphasizing development of inquiry teaching methods and skills, is an attempt to improve the level of independent problem-solving skills and abilities of the district's children (a previously defined educational policy objective), they may have less difficulty gaining acceptance for the decision both in the community and among the teachers in the system.

Continuous efforts must be made to update policy objectives (statements of desired end states) in light of changing societal needs to ensure maximally responsive change decisions.

2. Educational decisions should result from systematic processes. More appropriate educational decisions will result from systematic needs assessments, problem analysis, and alternative development and evaluation. A systematic approach to decision making is likely to produce a better

integrated course of action.

3. Educate the decision makers. All too often we assume that election to an educational decision-making body is sufficient experience for educational decision making. Rarely, if ever, are time and money spent on improving the capability of a decision-making unit. Adelson (1968, p. 243) suggests "the immersion of 'teams' (groups of people who are intended to work together toward a common goal) in progressively more complex problem environments that approximate in some essential respects their normal or anticipated working environment, with 'feedback of results' so that they may collectively evaluate each other and their joint perform-ance." Training for more effective collective decision making might include: group process and communication, systems analysis, creativity, simulation, and resource utilization. Educating those individuals involved in the decision process can improve the quality of decisions by expanding their frame of reference and improving their skills and capabili-ties.

4. The educational decision process should be continual and antici-patory rather than merely responsive. To some degree, educational decision makers are already behind the eight-ball, in that they are spending most of their time dealing with immediate crises, rather than making decisions that will anticipate and prevent future problems. In order for educational organizations to move forward at a pace consistent with the rate of change in the larger systems, the focus of decision making must change from the past and present to the future.

5. Effective educational decisions will be made only when adequate time is allotted. Too often educational decision making is considered a part-time, extra-hours job. Local school boards, teachers' committees,

and student bodies participate in the decision process within extremely

limited time frames, usually after putting in a full day's work in another

capacity. The human potential (alertness, etc.) is reduced by this

approach. Further, the time constraints imposed by part-time educational

decision making usually limit the amount of information gathered and used,

the number of alternatives generated and explored, and the evaluation of

alternatives. In a sense, limited time often short-circuits the entire

decision process.

Conclusion

The quality and acceptability of educational decisions will improve

only when time is taken to examine and redesign the structures and processes

by which they are produced. Only then will educational decision making

become politically rational.

CHAPTER III

RATIONALITY AND CREATIVITY IN DECISION MAKING

Human life is never without its two dimensions. Culture
(reason) and spontaneity . . . (Ortega y Gasset, 1961,
p. 52).

The rationality of social choice and group decision has
been even more difficult to demonstrate than that of
individuality. The stumbling block has been the deter-
mination of the appropriate value scale (Dyckman, 1961,
p. 340).

It seems clear that values . . . have their origins in
the patterns of choice behavior that are characteristic
of any given society. What we mean when we say that a
society is committed to certain values is that the people
in that society will typically make judgments and choose
to act in ways that reveal and reinforce those values.
It seems equally clear that choice behavior is determined,
or at least circumscribed, by the options available to
choose from at the time the choice is made. We can choose
to go to the country or to go to the moon, but we cannot
at this time choose to go on living for 150 years, because
that option is not now available to us.
    Available choice options do change over time, of
course. Thirty years ago we could not have chosen to go
to the moon; 30 years from now we may succeed in extending
the human life span to 150 years. When options are thus
changed or expanded, it is to be expected that choice
behavior will change, too, and changed choice behavior can
in turn be expected, given appropriate time lags, to be
conceptualized or "habitualized" into a changed set of
values (Mesthene, 1970, p. 49).

Today

Today is the result of an infinite number of choices made under vary-
ing value systems. Since the industrial revolution a predominately
technological and economic value system has determined the course of
events. The stranglehold of technology and economics on decision making
has created a scientific, technologically, and economically advanced
system that has only recently recognized a state of internal tension arising
from this strictly "utilitarian" approach to decision making. The less
desirable byproducts of over-utilizing technological and economic ration-
ality include: wars, over-population, pollution of the human environment,
a rate of change with which man is not prepared to socially and psycho-
logically cope, revolution from within, increasing gaps between those who
have and those who do not, etc. The application of technological and
economic rationales in decision making have combined to multiply both the
opportunities and problems that our society faces, and accelerated the
changes with which it must come to terms.

There is a growing need to "make our social decisions deliberately and
in public ways, rather than allowing them to 'fall out,' so to speak, of
the interplay of innumerable private decisions. . . . this means that allow-
ing political change to come gradually and of its own accord may no longer
be a viable strategy for contemporary society, as many of our youth are
coming to insist. Instead, we face the problem of deliberately restructur-
ing our political institutions and decision making mechanisms--including
the system of economic decision making--to make them more adequate to the
enhanced social role of the public sphere" (Mesthene, 1970, p. 69). We
need what Gross (1966, p. 251) describes as broader rationality, "a

rationality for the guidance of social systems," but the development of

such a complex rationality for the social good poses what for the time being

appears to be an unresolvable conflict. How can the values and/or prefer-

ences of the individual members of a system be incorporated in a fair

manner into a single value structure that can serve as a basis for making

decisions for the public good. Arrow (1951) shows that five requirements

of fairness cannot be functionally satisfied in any one decision-making

system. The conditions of fairness are:

> first, universal domain--that is, resolves all possible preference
>   patterns;
> second, positive association of individual values;
> third, independence of irrelevant alternatives;
> fourth, citizen sovereignty (nonimposition); and
> fifth, nondictatorship.

Arrow proceeds to show that if a function satisfied the first three

conditions, it was either imposed or dictatorial, and that the route from

individual values to social choice is at best studded with conflict.

Vickrey (1960, p. 521) points out that ". . . in the case of political,

social and moral events, the conflict is inherent in the nature of the

wants themselves, rather than in any limitation cf the available resources;

the wants are inherently for social states as such, and not merely for the

results that may be deemed to flow from a social state for a particular

individual."

We are faced with the problem of improving our decision processes in

order to reflect the multi-faceted value systems of many differing value

structures. The processes by which we have made and are making educational

decisions have resulted, more often than not, in stagnant patterns reflect-

ing and serving the technological-economic values of the industrial revolu-

tion. Somehow the processes by which we make the decisions which in turn

mold and shape the futures of a nation's children must be improved to
include a wider base of guiding rationalities and creativity.

Rationality implies order, rules, analysis, synthesis. Creativity
implies invention, spontaneity, originality, motion, growth. Both
dimensions are necessary aspects of effective decision processes. As we
attempt to make our educational systems more relevant to the needs of the
students, as we move toward educational systems that are functionally
designed to respond to and anticipate current and future changes, we need
to make sure both rationality and creativity enter into the decision
process.

The imposition of rationality on planning, problem finding-solving,
and decision making without the spark (or impetus) of creativity will
only develop more rigid and more ordered systems. Rationality can militate
against the spirit of creativity in that it tends to favor modes of reason
which sustain the established forms of life and modes of behavior. "A
given reality has its own logic and its own truth; the effort to comprehend
them as such and to transcend them presupposes a different logic, a contra-
dicting truth" (Marcuse, 1964, p. 142). Different orders and contradicting
truths come into being through creativity. Thus, any guidance system used
in educational decision making must incorporate both varying kinds of
rationality and creativity to ensure a multi-dimensional response and anti-
cipation of current and future needs.

Education systems must look forward. They are in the business of
preparing individuals to function in a world that will most likely be very
different from today. Decisions made today must reflect not only ration-
ality, but vision and originality if they are to be effective for the
future.

Rationality

Rationality implies the application of knowledge and reason (logic) in choice situations. Reason is order or negative entropy. It is a necessary aspect of a purposive and growing system. A system will live and grow to the extent that it can produce, increase, or preserve some good in a consistent, dependable manner. Consistent good results from the ability of the system to order its efforts according to some principle or set of principles.

The principles governing any system are derived from in accordance with the system's perception of its survival and growth needs in terms of the larger environment of which it is a part. Rationality is thus bounded, limited, and/or constrained by the conceptual and perceptual capabilities of the system.* For example, the logic of Western man differs from that of his Eastern counterpart. The order or logic imposed in choice situations will differ in accordance with the logic structures known to each, yet each can be considered a rational man, provided his decisions and behavior reflect the use of available knowledge and "acceptable" logic patterns.

In determining whether decisions reflect rational behavior on the part of a system we must not only be aware of the conceptual and perceptual

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*There is no truly <u>objective</u> rationality because man is not omniscient. All human systems (be they individual or organizational) operate with bounded rationalities. Recognition of our bounded reasoning processes means we realize that: (1) we can never have complete knowledge of consequences--that it will always be fragmentary at best; (2) since consequences lie in the future, imagination must supply the values lack of experience prevents us from having--values can be only imperfectly anticipated; and (3) we rarely, if ever, can envision all possible alternatives (Simon, 1947, p. 81).

limitations of the decision-making system, but also of the fact that any
system may possess a whole hierarchy of rational mechanisms (see Figure 3),
and that it may be our task to determine whether or not the system has
used or is using the most appropriate reasoning for the situation.

In our society, rationality based on technological and economic princi-
ples has provided the framework for many public and private decisions.
Within our changing social context the validity of rational decisions
based primarily on utilitarian principles is being questioned. In a
complex and technologically advanced system where basic questions of
survival have been resolved, other rational mechanisms must come into
play if the system is to keep producing a consistent good. These rational
mechanisms must in turn be integrated into a more "global" rationality
capable of guiding decision-making systems into a more complex future.

> A society or organization can continue in existence only by
> appropriating materials from its environment. In order to
> get these needed materials it must produce other materials
> for use in dealing with its environment, whether the dealing
> consists of exchange or of theft. [technical rationality]*
> It must evaluate its input-output balance to see whether the
> values produced are satisfactory in terms of individual
> desires and organizational survival. [economic rationality]
> If its members are human beings, they will develop expecta-
> tions toward one another, and these must be coordinated in
> order to maintain the required level of group action. [social
> rationality] Failures of coordination will lead to disputes,
> and these must be settled according to some predictable,
> equitable pattern. [legal rationality] Finally, all of these
> necessities call for the making of group decisions, for commu-
> nicating information and decisions, for checking and evaluating,
> and this too requires a structure which must be maintained.
> [political rationality] (Diesing, 1962, pp. 239-240)

Rationality is implied in each aspect of system existence. All
aspects of rationality (technical, economic, social, legal, and political)

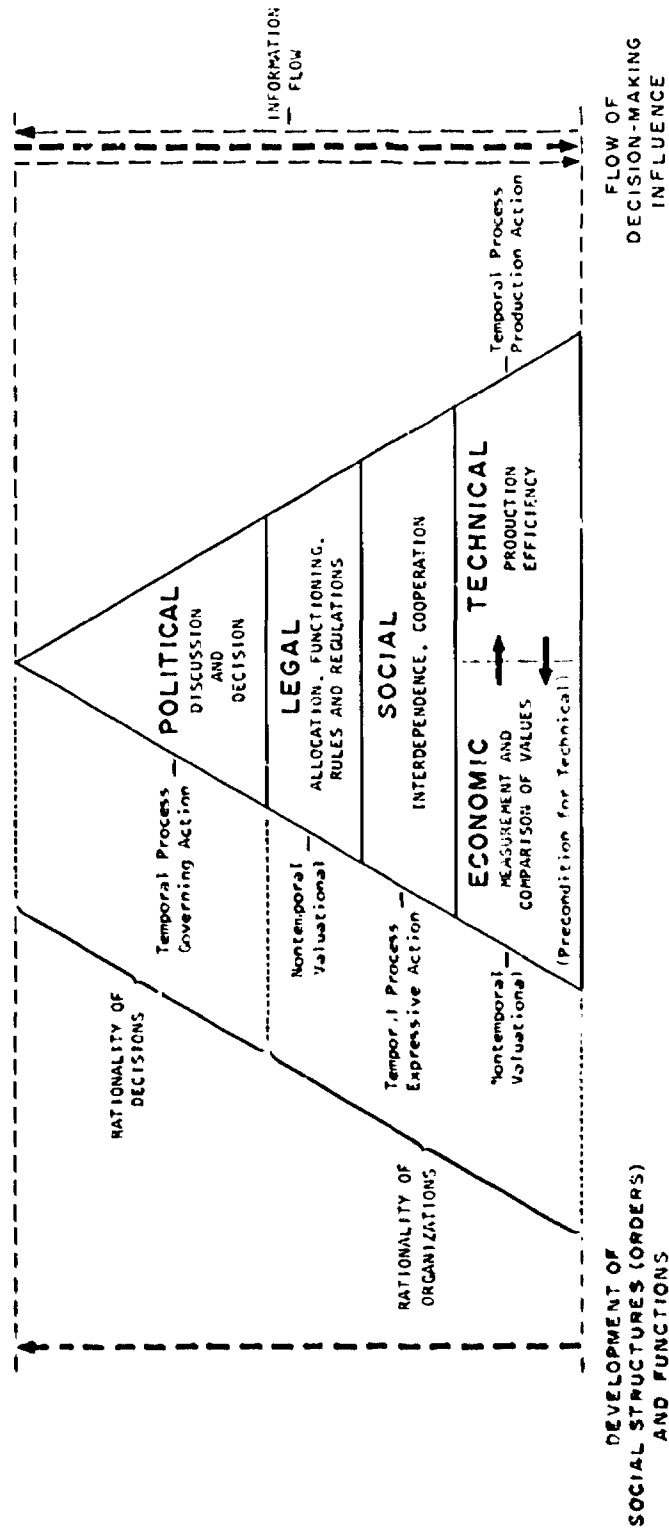*Words in brackets added for clarification.

Figure 3: Relationship of Rationales developed by Diesing (1962).

must be included in decision making if the system is to continue and grow.
Because the decision-making structures of an advanced system often determine
what rationalities are emphasized in decision making, we will begin our
discussion of specific rationalities with political rationality.

Political Rationality

Political rationality is the rationality of 'ecision-making structures.

> . . . it deals with the preservation and improvement of
> decision structures, and decision structures are the source
> of all decisions. Unless a decision structure exists, no
> reasoning and no decisions are possible; and the more
> rational a decision making structure is, the more rational
> are the decisions it produces. There can be no conflict
> between political rationality and any other kind of ration-
> ality because the solution of political problems makes
> possible an attack on any other problem, while a serious
> political deficiency can prevent or undo all other problem
> solving (Diesing, 1962, pp. 231-232).

Political rationality implies a logical approach to choosing the
process by which the system will make decisions and the parts to be played
by component members of the system. Our educational decision-making struc-
tures rarely reflect a political rationality. The mechanisms that assure
the presentation assessment and utilization of a plurality of facts,
values, norms, and actions are for the most part missing. What is apparent
is the acceptance of a decision-making structure that is no longer logi-
cally suited to dealing with the complexity of the educational system and
its environment.

A functional political rationality produces adequate decisions for
complex situations with some degree of regularity. The system is politi-
cally rational "if there is adequate provision for gathering and checking
information, adequate provision for inventing and checking suggestions,

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and adequate procedures for combining suggestions into a decision.
'Adequacy' here means effectiveness in dealing with problems facing the
system" (Diesing, 1962, p. 238).

Political rationality provides for the presentation of a plurality
of facts, values, norms, and action alternatives (differentiation). At
the same time it makes possible a unified resolution which incorporates
the differing materials presented (unification).* Political rationality
increases as the system member's toleration increases.

> Toleration is an incomplete form of unification; it consists of
> accepting the divergent beliefs and roles of others as valid
> phases of the group culture without taking them up into one's
> own ideal self. It is based on partial unifications and condi-
> tional loyalties, that is, on a feeling of underlying identity
> combined with a recognition of continuing irreducible differences
> among group members (Diesing, 1962, p. 185).

According to Diesing, political rationality requires decision-making struc-
tures that can be adapted to: problem solving, persuasion, bargaining, and
politicking.**

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*"A decision structure yields improved decisions as it embodies both
of these characteristics to a greater degree. First, the greater the
variety of presented facts, values, and norms, and the greater the variety
of proposed alternatives a structure is able to produce, the more effective
its decisions are likely to be. The reason is that decisions are made
necessary by problems and complex problems require complexity of treatment
for adequate solution. . . . Second, the more intricate and subtle the ways
of unifying presented factors are, the more effective the decision is
likely to be. . . . A complex problem is likely to give rise in discussion
to a variety of contradictory factual reports, differing values and norms,
and conflicting suggestions for action. An adequate decision will have to
note and embody most of the contradictory material and also relate it to
the previous commitments of the group; but this is possible only through
an intricate process of combination, evaluation, modification, and elimina-
tion" (Diesing, 1962, pp. 177-178).

**"In problem solving the participants assume that they share a joint
examination of the problematic situation, assembling information, making
predictions, giving and weighing suggestions, and continuing until everyone
is satisfied with the result. . . .
    If participants find that they differ in beliefs, goals, or criteria,

A structure adapted to all four processes must therefore provide
multiple alternative forms of unification--common beliefs and
values, trust, tolerance, rules of procedure, and also power
distribution and centralization. Multiple leadership roles are
also necessary to operate these different kinds of unification.
Differentiation should vary with the issues raised; some issues
should divide the structure into clear and continuing groups
for bargaining, and others reduce it to multiple shifting points
of view for problem solving (Diesing, 1962, p. 197).

Problem solving, persuasion, bargaining, and politicking are all necessary

to some extent for the preservation of complex decision structures; complete

reliance on only one or two processes leads to structural deterioration,

and the dissolution of political rationality.

Political Decisions

Political decisions are those concerned with the preservation and

improvement of decision structures. "All decisions occur within a decision

structure of some sort, but political decisions have decision structures

as their special subject matter" (Diesing, 1962, p. 198). Educators are

rarely involved in making changes in the decision-making structures. Only

recently, due to (among other things) increasingly vociferous student

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they may resort to persuasion in an attempt to eliminate the differences.
Persuasion involves mainly the testing of disputed beliefs and values by
reference to more general criteria shared by the participants. . . .
    In bargaining, the participants work out their own objectives and
strategies privately before meeting together. They assume that their
objectives, or at least their immediate objectives, are not shared by the
other participants, and that persuasion will be ineffective in producing
agreement   Instead, agreement is reached by exchanging concessions or
pretended concessions, with each side trying to gain a maximum and give
up a minimum. Politics is a preparation for bargaining; participants
assume that bargaining will eventually be necessary, and try to establish
a. strong a bargaining position as possible in advance. They do this by
forming coalitions, marshaling or increasing their resources, and diverting
or destroying the opponents' resources" (Diesing, 1962, p. 175).

bodies have we begun to examine our educational problem finding-solving and decision-making structures and undertaken to change them, to make decisions based on the political rationale that what is-isn't apparently doing the job. Gradually, we are beginning to see more students, teachers, and parents involved in the educational decision process. Hopefully, the increased plurality of opinion and ability will improve the quality of educational decisions.

Applying Political Rationality

Political rationality determines the kind of decisions an organization can make, and is thus fundamental to all decision making.

Basically, political decisions are made to: (1) maintain the independence of the decision structure in the face of pressure; (2) to structure a decision-making body that is balanced and moderate; and (3) to prepare for future pressures. In other words, political decisions are required primarily when deficiencies in the operating decision structures of a system become apparent. "The symptom of a political deficiency is the existence of numerous and increasing nonpolitical problems for the organization" (Diesing, 1962, p. 228). Decision structures are established to provide for the resolution of problems, if unsolved problems accumulate, deficiencies in the decision structures may be indicated.

> The deficiency may be some form of narrowness, in that the
> structure is not receptive to an adequate range of facts, or
> that it is not able to break away from well-known formulas
> in its estimates of problems and suggestions for action, or
> that it is insufficiently self-critical and slow to admit
> error, or that its procedures are excessively rigid and thus
> shut out novelty. The deficiency may be some form of inde-
> cisiveness or internal conflict, in that decisions are
> excessively difficult to achieve, or that they are nullified
> or changed by concealed internal opposition, or that the

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system "changes its mind" too readily after reaching a
decision" (Diesing, 1962, p. 227).

Political rationality must be operative in the decision process at the

policy level. Through the political decisions concerning who will be

involved in decision making and the nature of the decision-making process

itself, the patterns for the definition of goals are set. So, if we are

to expand the framework of the decision process in education, we must first

expand our decision-making structures through the application of political

rationality. If we fail to recognize the inadequacy of our present systems,

we are lost.

Legal Rationality

Every social system develops a set of basic rules for the guidance of

member behavior. These rules form the legal order of the system. They

define expectations and obligations. The legal order sets the limits of

individual action, indicating what actions are necessary and/or possible.

Legal reasoning involves the application of rules to situations requiring

action.

> These rules must be complex, detailed and precise enough
> apply unambiguously to all cases; they must be consistent;
> some of the rules must apply impartially to all persons,
> while others must apply differentially to different statuses
> or classes of persons (Diesing, 1962, p. 151).

> A legal rationale produces:

> (1) a trend toward complexity of distinctions and clarity of
> detail, such as highly technical terms, (2) a trend toward
> clear and distinct hierarchical differentiation, for example,
> job specification, (3) a trend toward uniformity, equality,
> and universalization where differentials are not involved,
> and (4) more generally, a trend toward rigidity, unchange-
> ability, action according to rule. Once rules are made, they
> may be clarified, made more precise, extended but not changed
> (Diesing, 1962, p. 140).

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Primary reliance on legal rationality is well evidenced in the
typical bureaucracy. A bureaucratic organization develops a code of rules
and set forms; the rules and forms become more complex and detailed; the
applicants are treated uniformly according to unvarying rules; and the
bureaucratic personnel, themselves, often develop an increasingly
detailed hierarchical differentiation. Many educational systems operate
using a legal rationality as the basis for many decisions. For example,
personnel policies such as teachers' tenure have been so rigidly adhered
to that we have many ineffectual teachers in our classrooms. The rules
have been established and applied in an orderly fashion to ensure uniform
treatment for all teachers, whether effective or not.

Once a system has become entrenched in a mode of operation that rests
heavily on legal rationality, it is by its nature difficult to change.
A legal rationality will be most effective when utilized in conjunction
with other types of reasoning.

Judicial Decisions

A decision may be termed judicial when a choice among alternatives
is made through an application of rules·to cases. "Rules are statements
that a certain class of persons has a duty to perform (or not perform)
certain actions, or conversely, that a class of persons has a right to
certain treatment" (Diesing, 1962, p. 155). Judicial decisions must be
made by a neutral party.

Applying Legal Rationality

. . . Judicial decisions are appropriate in situations

> involving clear and relevant rules, an acceptable judge, clear
> and continuing differences of interest, and the two kinds of
> inducements to obedience, self-interest and identification.
> Unless the rules and the judge are available, judicial cecisions
> are impossible; unless both inducements to obedience are present,
> decisions will be ineffective; unless the continuing differ-
> ences are present, judicial decisions are unnecessary or harmful
> (Diesing, 1962, p. 162).

In many decision situations it is impossible to apply legal rationality

because there is no neutral party available to make the decision. Parti-

cipating members of decision-making bodies are usually representing various

interests and points of view and cannot, therefore, make impartial judi-

cial decisions. For example, "Legislatures are capable of making political

decisions, which deal with problems of common interest, and also economic-

bargaining decisions where there are conflicts of interest, but they

cannot adjudicate disputes like a judge" (Diesing, 1962, p. 162).

In recent years legal rationality has been applied at the federal

level in an attempt to influence the operations of many educational systems.

The judicial rulings of the 50's and 60's have made it imperative for

schools to consider the legal aspects of many educational issues.

> A legal rationale comes into play
>
> when there are permanent, clear differences of interest, it
> acts to stabilize the resulting conflict-situation, if and only
> if there are already bases of stability--stable power relations,
> solidarity, common principles--but it does not resolve the con-
> flicts, remove the frustrations and hostility, integrate the
> opposed interests (Diesing, 1962, p. 143).

This is the obvious result of the court's attempt to provide equal

quality education for all youngsters. Very little true integration of

interests and desired ends has been accomplished.

Social Rationality

Social rationality is the application of reason to the development

and maintenance of integrated and balanced social relations within a

system. "A system is integrated when the activity of each part fits

into and completes the activity of other parts, and when in addition each

part supports, confirms, and reinforces other parts by its activity"

(Diesing, 1962, p. 76). A system is in balance or equilibrium "when

opposing forces within it balance each other, and hold in check the

action and changes which each one by itself would produce" (Diesing, 1962,

p. 81).

A word of caution--like a teeter-totter in perfect balance, systems

that remain in states of true integration and balance over long periods of

time are not moving or alive. They are characterized by: (1) internally

consistent roles, (2) mutually agreeable integration of roles, (3) continu-

ity of successive roles, (4) compatibility with the nonsocial environment,

and (5) a value system characterized by particularism, loyalty, and

ascription.

Inconsistency, discontinuity, and conflict are necessary for growth;

therefore, strict adherence to a social rationale is likely to produce

a stagnant system.

Integrative Decisions

Integrative decisions are basically decisions involving the adjustment

or mutual modification of forces. They include the "putting together of

things that were separate and the reconciling of things that were in

opposition; also negatively, the separation of irreconcilable forces and the exclusion of disruptive elements" (Diesing, 1962, p. 97).

Integrative decisions can be either preventative or curative in nature. Preventative decisions involve the application of three basic principles: (1) select or arrange situations which are not too difficult to master; (2) make provisions for future stresses; and (3) hedge against uncertainty or postpone irreversible decisions (Diesing, 1962, pp. 101-105). Many learning situations require the use of preventative integrative decisions.

Curative integrative decisions are more complex, and the first step involves finding a starting point from which to work. Diesing suggests that one should: (1) find parts of the problem that can be changed with existing resources; (2) define the problem area as sufficiently independent; and (3) make sure the problem area is capable of expansion--that is, if the initial problem area is part of a larger problem, make sure initial decisions permit expansion to the resolution of the larger problem.

The general objective of an integrative decision process is to project the probable changes in personality and relations resulting from a given action and to then set up rational control over these changes.

Applying Social Rationality

Applying social rationality means that the decision-making body considers the problem situation as essentially social in nature. That is, that the problem is caused by a conflict of roles in the system. Desires and habits are treated as parts or symptoms of the conflict. The conflicts are then resolved by an integrative process in which the goals are changed,

rather than satisfied (economic), and the action alternatives are chosen
according to how they contribute to changing the goals (Diesing, 1962,
p. 114).

A social rationale is most suitably applied in situations which
require the: (1) channeling of emotional energy and prevention of its
diffusion or loss, (2) elimination of conflicts that would block action,
(3) provision of supporting forces to strengthen action and carry it to
completion, and (4) the action be made meaningful to participants. Clearly,
many of the decision situations requiring action by educational adminis-
trators would benefit from a social rationale.

Economic Rationality

> The logic of economy is simply the logic of allocation and
> exchange. Goals demand achievement, but not all of them can
> be achieved because there is a scarcity of means. If some
> goals must be sacrificed, they should be the least important
> ones; or if partial achievement is possible, the most important
> parts of each goal should be achieved. This requires a
> detailed measurement of the comparative importance of each
> goal and each part of the goal (Diesing, 1962, p. 20).

Economy must be a consideration in any system where desired goals
exceed the available means. The comparative importance of goals is estab-
lished in accordance with a functioning value system.* "The output
boundary of an economy is the locus of a society's ultimate values, those
for the sake of which the economy exists. . . . Values such as standard of
living, prestige, adventure and creative activity, ceremonial action, and
knowledge are typical consumption values" (Diesing, 1962, p. 15).

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*Values are those conceptions of desirable states of affairs that are
utilized in selective conduct as criteria for preference or choice or as
justifications for proposed or actual behavior" (Williams, 1967, p. 21).

The value system of the society is reflected in its economy. The members of the society make judgments and choose to act in ways that reveal and reinforce those values. ". . . Some fifteen major value-belief clusterings that are salient in American culture [are] as follows: (1) activity and work; (2) achievement and success; (3) moral orientation; (4) humanitarianism; (5) efficiency and practicality; (6) science and secular rationality; (7) material comfort; (8) progress; (9) equality; (10) freedom; (11) democracy; (12) external conformity; (13) nationalism; (14) individual personality; (15) racism and related group superiority" (Williams, 1967, p. 24). These values are reflected in an economy designed to maximize private organizational and individual material wealth. Both public and private decisions made in this country have for a long time been based on an economic rationale whose value basis has been individual profit. That is, decisions have been made in terms of maximum material profit for the system making the decision with little regard for impact on other systems or the total environment.

The technological advances being made are forcing a reexamination of the value system underlying the economic rationality pervading our system.

Economic Decisions

Economic decisions involve assessing the values of given ends, ranking those ends and choosing those most valueable. If all goals were (or are) achievable, there would be no need for economic decisions. Questions of economy will most likely always be with us when making decisions about educational policies and programs. Therefore, the value system for ranking ends (or goals) is of paramount importance.

Applying Economic Rationality

Operating with an economic rationality means that alternative ends
must be comparable on some scale. Measurement and comparability of goals
are essential requirements in rational economic decision making.

Educational goals and/or ends are usually so abstractly defined that
measurement and value comparability are impossible. Even when more
clearly defined and measurable, it will be difficult to rank order goals
in terms of their value. What is an appropriate value scale for ranking
educational goals and making the necessary economic decisions required in
education today? How can the divergent value systems emerging in this
country be incorporated in a criterion scale that will provide the basis
for fair economically rational decisions?

Technical Rationality

"Technical rationality appears in actions which are undertaken for
the sake of achieving a given end" (Diesing, 1962, p. 9). It is the order
imposed when choosing means that are adapted to ends--or when answering
the question, How can we achieve our goals? It is a logic applied
preferably after goals have been defined to determine which methods-means
are likely to be most efficient* in achieving the desired end(s). It is
the rationality of production, based on the rationality of consumption

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*A distinction between efficient and effective can be made. If a
person has an end, he is obliged to use a means that is effective toward
it, but he is not necessarily obliged to use the most effective or efficient
means. To be effective he must only find means that are sufficient to
achieve his ends at his level of satisfaction. To be efficient one must
find means that produce the desired effect with the minimum of effort,
expense, or waste.

(economic). Economic and technical logic exists in a symbiotic relation-
ship. The order of production (technical order) cannot exist apart from
the order of value measurement (economic order). A technically rational
system is one which transforms resources into an optimally valuable
product. In order to make technically rational decisions about this
transformation, an economic or value system must exist.

Technical Decisions

A technically rational decision is one in which each step of a pro-
ductive sequence is chosen because it is the best fitted to move the
sequence along toward a given goal. As such, technical decisions cannot
be made until economic questions of costs and values have been determined
(Diesing, 1962, p. 12).

Applying Technical Rationality

The definition of goals is a prerequisite condition for the applica-
tion of technical reasoning. Technical norms should not apply to decisions
about ends or goals. For example, when an organization is making decisions
concerning a change in goals and/or objectives, political, social, and
legal considerations should form the focus for their reasoning and deci-
sions, rather than means consideration. Once the desired ends have been
defined, a technical rationality can be applied to the selection of effec-
tive means to achieve those ends. According to Diesing (1962)

> The technical norm points to its own conditions of applica-
> bility: it applies whenever one is deciding about the means
> to be used in achieving an end. Anyone who entertains an
> end seriously has thereby committed himself to achieve it
> (this is what it means to have an end) and ends cannot be

achieved without effective means. Consequently, whenever a
person has an end, he ought to be technically rational in
achieving it (p. 12).

Technical reasoning is not involved in the comparison or ranking of goals

or objectives. These decisions are essentially economic in nature.

Neither can a technical rationale be applied in situations where clear-cut

goals cannot be formulated. Technical rationality is appropriately

applied when choices about means are being made. When means become ends

in themselves, man becomes the servant of technology, rather than

technology being the servant of man.

Integrating Different Rationalities in the
Educational Decision Process

One day through the primeaval wood
A calf walked home as good calves should;
But made a trail all bent askew,
A crooked trail as all calves do.

Since then three hundred years have fled,
And I infer the calf is dead.
But still he left behind his trail,
And thereby hangs my moral tale.
The trail was taken up next day
By a lone dog that passed that way;
And then a wise ellwether sheep
Pursued the trail o'er hill and glade
Through those old woods a path was made.

And many men wound in and out
And dodged and turned and bent about
And uttered words of righteous wrath
Because 'twas such a crooked path;
But still they followed--do not laugh--
The first migrations of the calf,
And through this winding wood-way stalked
Because he wobbled when he walked.

This forest path became a lane
That bent and turned and turned again;
This crooked lane became a road,

Where many a poor horse with his load
Toiled on beneath the burning sun
And traveled some three miles in one.
And thus a century and a half
They trod the footsteps of that calf.

The years passed on in swiftness fleet,
The road became a village street;
And thus, before men were aware,
A city's crowded thoroughfare.
And soon the central street was this
Of a renowned metropolis;
And men two centuries and a half
Trod in the footsteps of that calf.

Each day a hundred thousand rout
Followed this zigzag calf about
And o'er his crooked journey went
The traffic of a continent.

A hundred thousand men were led
By one calf near three centuries dead.
They followed still his crooked way,
And lost one hundred years a day;
For thus such reverence is lent
To well-established precedent.

<div align="right">Sam Walter Foss, 1895</div>

The old "utilitarian" avenues of rationality do not and cannot lead
a 20th century society to "satisfactory" destinations. New and varied
avenues leading to a variety of satisfactory ends must be discovered,
designed, and integrated into the working structures and functions of the
social system.

Rationality implies the imposition of some type of order (net) over
natural processes. Order varies in pattern; thus, different systems of
reason (logic or rationality) develop in accordance with the order frame
imposed on reality. Rationality (reasonableness) is then determined by
the degree of coincidence between the produced thought patterns of relation-
ships and those of the order imposed. For example, let us assume that

this ▦ is the system of order we have established as our conceptual

frame. Any statements showing relationships that coincide with this order

will be perceived as rational. Thus, □, ⊥, ⅗, +, ⊞ are

rational statements. ∞, ℰ₀, ⟶, ℰ⟋ are not. If, however, we

change our conceptual frame to ○○○○○○○, then □ becomes irrational and

○○○ becomes reasonable.

As we attempt to integrate our lives into an ongoing, ever-changing

series of events of nature, we are likely to be more successful if the

orders we impose on our human conceptual and perceptual process: are

flexible--can change with the event level of process; are compatible with

other systems of order--can co-exist within some undefined realm without

destroying others; welcome new orders to the fold--make room for innovation

and change.

We have discussed five types of order and/or rationality. Can they

(and any others that appear relevant) function together to produce effective

human system alternatives to meet individual and collective human needs or

desires within the larger environmental context of events in process?

Hopefully, expanded human awareness of options and order will produce a

broader base of rationality, incorporating various types of rationality in

the choice process.

Let us assume the educational context and restrict ourselves to the

five types of rationality discussed earlier in this chapter and approach the

problem of making a policy decision on district goals and objectives in a

school district. Our goal is a decision or series of decisions that incor-

porates the rationality of the five orders.

Politically rational. To be politically rational the decision-making

structure and process must make adequate provision for gathering and checking

information, adequate provision for inventing and checking suggestions,

and adequate procedures for combining suggestions into a decision.

Therefore, we need to ask the following questions before the decision

process is set in motion.

1. Do the members of the decision-making unit represent a plurality of facts, values, and norms? If not, what can we do to expand the decision-making structure to include a wider range? Can the decision-making power be distributed in a more meaningful way to ensure maximum differentiation?

2. Can the members of the decision-making body work together to achieve unified, widely-accepted responses incorporating differences? If not, what kinds of training, procedures, outside help can be employed to resolve conflicts?

3. Is the decision-making structure representative of community, student, educator, and administrator viewpoints? If not, can steps be taken to incorporate with "real" power concerned and affected elements of the population?

4. Can the decision-making structure change with the needs of the decision situation? If not, how can we legislate more flexibility into decision-making structures?

Once the decision-making structure appears set and representative, the

following questions should be raised.

1. What kinds of information are needed to make viable decisions (educational policy, in this instance)?

2. What are the best procedures for gathering and validating "relevant, timely, and accurate information"?

3. Where can we find "expertise"?

4. Do we need support help to gather and validate information?

5. How much time is necessary to gather and validate "adequate" information? What can we do to ensure appropriate time allowances for gathering and validating information?

6. What procedures do we need to establish for communicating, studying, and analyzing information?

7. What kinds of procedures should we adopt for generating alternatives?

8. Have criteria for evaluating alternatives been established in

advance of the generating phase?

9. Have procedures been established for negotiation and bargaining
   to help resolve differences? Are they acceptable to all mem'·ers
   of the decision-making body?

10. What needs to be done to alter the current decision-making struc-
    tures and procedures to ensure more effective and acceptable
    (to community, students, teachers, administrators, etc.) educa-
    tional policies?

In other words, to be politically rational, educational policy systems

will have to come from "adequate" political structure and process. This

means examining what exists in the way of structure and process to determine

its adequacy and relevancy in light of the current situation before initi-

ating the policy decision process on educational goals and objectives.

Legally rational. A decision will be legally rational if it coincides

with the system's rules. In the case of decisions on educational goals and

objectives, alternatives need to be assessed against existing local, state,

and national laws to determine compatibility. Should there be doubt, the

issue would have to be tested in the judicial system. If there are perma-

nent, clear-cut differences among members of the decision-making unit for

which legal answers can be provided, then judicial action should be sought.

Socially rational. To be socially rational, policy decisions on

districts' educational goals and objectives would have to:

1. Permit and be compatible with differing value systems within the
   school district.

2. Set the frame for educational programs that will provide for a
   variety of integrated avenues into the social system of the future.

3. Set the frame for educational programs that will provide learning
   activities that will enable children to assume varied and
   different roles (occupational and social) in the current and
   future society.

4. Set the frame for educational programs compatible with the non-
   social environment.

5. Set the frame for learning activities designed to relate and unite individuals.

6. Reflect a human, emotional response to choice of alternatives.

7. Promote an integrative approach to differences; that is, work towards the maintenance and integration of differences, make differences work together instead of in opposition.

Socially rational decisions reflect an attempt to integrate differences in a workable pattern that will maintain continuity while permitting and encouraging change. Instead of ranking different end states in a value hierarchy and making decisions in terms of those "most valued," attempts are made to integrate differences into working relationships that don't require valuation.

Economically rational. Decisions that are economically rational means that in a situation where resources needed for achieving desired end states are limited or scarce, some attempt has been made to assess the value of the desired end states and that allocation of resources has been made in accordance with the value of the end state. The value system used for comparison of end states is the crucial factor. Therefore, the following questions might be asked:

1. Does the value system being used to rank educational policy goals and objectives appear compatible with the present and future value systems of all system members? Have attempts been made to control bias?

2. Is the scale being used to assess ends based on social as well as individual needs?

3. Who should be involved in assessing the value of educational goals?

4. Can a criterion scale be found that will incorporate divergent value systems and maximize service to the differing systems?

5. Have the probable future-state value systems for the system been assessed and adjustments made?

The dilemma involved in making economically rational decisions, that of

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finding a single value scale on which educational goals and objectives

can be ordered, may prove unresolvable. Some decisions must be made

however, because resources for education are limited. Whose value scale

should we use?

Technically rational. Once educational policy decisions have been

specified in stated goals and objectives, technical rationality can be

applied to find the most "effective" and "efficient" manner of achieving

those objectives. Questions such as the following can be used to assess

technical rationality.

1. Have proposed alternatives been tested in other situations?
   What were the costs and achieved outcomes?

2. Will the alternative achieve the desired end?

3. Which of the alternatives is most likely to lead to the desired
   end with the minimum expenditure of resources?

4. Does each expenditure of energy or other material make a maxi-
   mum contribution to achievement of the desired end state?

5. Can the desired end state be achieved with equal or more
   efficiency and effectiveness using varying alternatives?

If several rationalities are employed throughout the decision process,

then we are more likely to be making more effective educational decisions.

If we begin the process by making the decision structures and process

politically rational, then we stand a greater chance of being socially and

economically rational in our educational decision making.

Expansion of the reasoning powers we bring to bear in making decisions

will not be easy. Our aims must reflect a desire and willingness to locate

and describe new types of calculation, or quasi-calculation, appropriate to

social, political, and legal problems.

> For instance, this might be done by broadening the conception of
> a goal and defining appropriate noneconomic "goals": maintaining
> optimal tension levels for social rationality, resolving and

preventing conflicts for legal rationality, staying in power
and preserving communication lines, and so on, for political
rationality. The appropriate techniques for each "goal" could
then be described in such a way that they are comparable both
for costs and results. Finally, less exact methods of summa-
tion and comparison would have to be devised, since it is
impossible to achieve the precision of statistical decision
theory in social and political rationality. Most and perhaps
all of this program remains an aspiration rather than an
achievement, and it seems unlikely that such a program can
ever be completed, because of the difficulty of adequately
describing social and political rationality in terms of goals
and techniques. However, even though complete success may be
impossible, any partial achievement would be interesting as
throwing new light on reasoning processes (Diesing, 1962, p. 247).

In essence we should be in the process of building a new loom to

weave new social and educational patterns.

. . . Upon this gifted age, in its dark hour
Rains from the sky a meteoric shower
Of facts . . . ; They lie unquestioned, uncombined,
Wisdom enough to leech us of our ill
Is daily spun, but there exists no loom
To weave it into fabric.

                                    Edna St. Vincent Millay

Creativity in Decision Making

Creativity: an arbitrary harmony, an expected astonishment,
an habitual revelation, a familiar surprise, a generous
selfishness, an unexpected certainty, a formidable stubborn-
ness, a vital triviality, a disciplined freedom, an intoxi-
cating steadiness, a repeated initiation, a difficult delight,
a predictable gamble, an ephemeral solidity, a unifying
difference, a demanding satisfier, a miraculous expectation,
an accustomed amazement (Prince, 1969).

To give a fair chance to potential creativity is a matter
of life and death for any society. (Toynbee)

To live and maintain a vital relationship with their environment,

system must make creative decisions. Too often systems examine what exists,

choose the least available evil, and act. Sidney Parnes (1967, p. 6) quotes

James Reston on the subject. "After a while, defense of what is seems more comfortable and easier than speculation on what might be. No thought is required. The familiar round questions are dropped into the slot, and out drop the automatic answers: smooth, tidy, stale and tasteless."

Novel responses to decision situations are necessary for growth and life. Creativity must be an integral part of the decision process if the alternatives man generates for future courses of action are going to create a dynamic equilibrium between systems and their environment. Creativity is necessary in any approach to the future.

Integrating Creativity and Rationality in Educational Decision Making

The rational powers of the human mind have always been basic in establishing and preserving freedom. In furthering personal and social effectiveness they are becoming more important than ever. They are central to individual dignity, human progress, and national survival . . . And the society which best develops the rational potentials of its people, along with their intuitive and aesthetic capabilities, will have the best chance of flourishing in the future. To help every person develop those powers is therefore a profoundly important objective and one which increases in importance with the passage of time.

Educational Policies Commission of the NEA, 1961

Alfred North Whitehead (1929) once said, "Fools act on imagination without knowledge; pedants act on knowledge without imagination. The task of a university is to weld together imagination and experience." We might paraphrase this thought and say, Fools act on imagination without knowledge and reason, pedants act on knowledge and reason without imagination. The task before educational decision makers is the weaving of creativity,

knowledge, and reason into the decision process.

> The effectiveness of creative productivity also depends, of
> course, on the evaluation and development of embryoni: ideas
> into usable ideas. Without knowledge, imagination ca mot be
> productive. Without imaginative manipulation, abundant
> knowledge cannot help us live in a world of change. And
> without the ability to synthesize, evaluate and develop our
> ideas, we achieve no effective creativity (Parnes, 1967, p. 7).

Educational decisions will to some extent shape the future by virtue
of the learning experiences they provide for the citizens of the future.
Decisions that do not reflect creativity in approaching the future and
rationality in defining the future are likely to contribute to a stagnant,
decaying, or chaotic social system.

Rationality and creativity should exist in a symbiotic relationship
throughout the decision process, creating more effective decisions for
change.

Novel approaches to problem finding or needs assessment, as well as
generating alternatives, can be effectively combined with rational examina-
tion of problems, needs, and known alternatives to produce better alterna-
tives. Through rational means of action we can also stimulate creativity
by establishing and maintaining an open and supportive climate. Similarly,
rational techniques such as operational gaming and systems analysis can be
used to stimulate invention and identify creative potential. Rational
methods can be used to assess the cost-value relationships of new alterna-
tives. But we must be able to invent new and better alternatives through
creativity before we can rationally assess them.

A desirable future will exist to the extent that we _rationally_ approach
the task of _creating_ desired ends.

CHAPTER IV

GUIDELINES FOR MANAGING GROUP PROCESS

> Some people resist change. Some hold the keys
> to it. Some admit the need for new ways but
> don't know how to begin. The question becomes
> what kind of management can ease the inevitable
> pains, unlock the talent, energy, and knowledge
> where they're needed, help valuable men to con-
> tribute to and shape change rather than be
> flattened by it (Albrook, 1967, p. 166).

One answer to Albrook's question is participative management,

which means individuals will often be involved in collective problem

finding-solving, planning, and decision making. The possible advantages

accruing frem participative management often require guidance, direction,

and control (however subtle) in order to become real advantages.

Given the multiplicity of variables interacting in group precesses,

nonproductive chaos can result as easily (if not more so) than produc-

tivity, therefore some management of group process is necessary. Some

effort must be directed toward making the group functionally effective.

Effective groups are usually characterized by (1) goal or purpose

clarity, (2) shared leadership, (3) cohesiveness, (4) intelligent use of

differing abilities of group members, (5) balanced group productivity

and individual satisfaction, (6) flexible procedures, (7) a high degree

of communication, (8) feedback and review procedures, (9) freedom from

domination, (10) balanced emotional and rational behavior, and
(11) effective use of time.

The guidelines and practical suggestions offered in this chapter
revolve around four basic ideas: (1) group efforts are aided by
systematic approaches to problems and/or tasks; (2) groups prosper
best in an open and supportive climate; (3) control of group activities
should be left primarily in the hands of group members, with a group
manager or leader intervening only when necessary to improve the group's
effectiveness; and (4) group efforts benefit from feedback and evaluation.
It may be necessary, as groups begin the initial operation, for one
individual to assume the role of group process manager. Hopefully, as
the group works over time, this role can be assumed by all group members.

1. Plan for Systematic Problem
Finding-Solving and Decision Making

Systematic group processes are more likely to lead to efficient
achievement of group goals. If the participants know the route, how
to negotiate it, and the time schedule, they can better adjust their
behaviors in order to achieve the desired end state within the time
allotted.* For this reason, we suggest a framework or a pattern for
guiding the group process. It should be remembered, however, that the
pattern of group procedures should remain flexible enough to accommodate

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*In effective group decision making, the group must base its
decisions on the available evidence and proceed from decision to decision
with an awareness of how much must be accomplished in a given period of
time. Time is often a crucial factor in the decision process.

different group sizes, different tasks and problems, as well as
different time schedules. The following steps suggest a possible
pattern for group problem solving and decision making.

1.1 Locate the Problem

When a group convenes to solve a problem or make a decision, there
is often a statement of the problem put before them. The tendency for
most individuals and groups is to take this first conception of the
problem and commence the analysis that leads to solution. This is not
always the wisest tactic. In the beginning of a problem finding-
solving or decision-making experience, the interest of the group should
focus on exploring the problem. Considerable time should be spent on
exploring, choosing, and isolating a starting point (Maier, 1963, p. 50).
This often requires the repression of the natural tendency in individuals
to gravitate toward solutions. The first question, then, is "what is
the problem?" not "how can we solve this problem?"

Locating the problem and/or the decision environment is an important
phase in problem finding. Is the problem or decision related to the
environment, the organization, groups within the organization, individuals,
or various combinations of the aforementioned?

If the problem is viewed as being in the environment or situation,
different kinds of solutions are required than if it is viewed as a
problem stemming from individual behavior. For example, the school
library is not being utilized. This problem might be seen as related
to the library environment. Solutions that might be considered relevant
from such an approach could include: improving the lighting, making

books easier to locate, speeding up check-out procedures, providing

more librarian assistance for the students, making the library

environment more pleasant for the students, etc. The problem could

also be seen as related to individual student motivation. Locating

the problem with the students might provoke solutions such as:

educating the students on library utilization, giving assignments that

are conducive to library work, rewarding students who do make use of

the library, interviewing students to find out why they don't use the

library, setting good examples for the students through teachers by

encouraging teacher use of the library, etc.

The location of the problem in the environment, the organization,

the groups or individuals is possible whenever the problem or decision

involves the behavior of people. There are other problem and decision

locations for problems that do not involve human beings. Locating the

problem within a defined frame of reference helps focus group efforts.

Care must also be taken to see that the problem is located within

the group's sphere of influence. If the group has no power to implement

a solution or decision once it has been reached, the problem remains

essentially unsolved (Maier, 1963, p. 70). The sphere of influence

should be realistically defined for the group, so as not to have the

group efforts result in frustration. Of course, in spite of all attempts

to confine solutions and decisions to a specific sphere of influence,

there will be times when solutions or decisions require action from

those outside the immediate sphere of influence. In such instances

as these, the group should explore the ways in which they can encourage

the necessary action from the "outsiders." Group members should always

remember, however, that problem finding-solving and decision making

within their sphere of influence are the most constructive.

A problem area must be independent enough to sustain a solution
and solvable with the available resources (Deising, 1962, p. 191). The
problem area must be independent enough from its context to sustain a
separate solution against outside pressures. "Outside pressures are
not pressures from outsiders, strangers, foreigners, but pressures
from other parts of one's* personality, other values, other role-
expectations, etc., not included in the social area" (Deising, 1962,
p. 191).

A basic framework for problem diagnosis and analysis should result
from an initial exploration of the problem area.

1.2 Specify the Problem to be Solved and/or the Decision to be Made

After exploring and locating the problem area, the specific problem
should be stated for the group to assure that everyone is, in fact,
discussing and exploring within the same frame of reference. The
following principles may help produce a problem statement that is a
good communication referent for group action.

1.2.1 The statement of the problem should be clear and concise.
(Long statements do not make good communication referents.)

1.2.2 Only one objective should be specified in each problem
statement.

1.2.3 The problem statement should not reflect bias, imply a
solution or suggest alternatives. It should encourage freedom of

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*One, as used here, can be expanded to the organizational context.

thought rather than restrict it.

1.2.4 Whenever possible, the problem should be stated in impersonal terms; that is, the statement of the problem should not imply individual behavior modification, but rather focus on the situation.*

1.2.5 The statement of the problem should reflect both organizational and individual goals.

1.2.6 The statement of the problem should be readily understood by both members of the group and interested outsiders. The language employed in its framing should be precise and mutually agreeable to all members of the work group.

1.2.7 The wording of the question should allow the widest possible latitude for investigation.

The statement of the problem confronting the group can have a major effect on the manner in which the problem is explored and resolved. For this reason, great care should be taken in framing the question.

<div align="center">

1.3 Gather Data About the
Problem--Retrieve Information

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At this stage in the group problem-solving process it becomes essential for all members of the group to have a common body of factual knowledge from which the analysis of the problem can proceed. The general awareness information from which the problem was framed is no longer sufficient. Specific information about the problem is necessary

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*"Altering situations is easier than changing people. However, people will welcome changes in their behavior if it is their own idea. It follows, therefore, that a discussion to change the situation may lead to suggestion for behavior modification" (Maier, 1963, p. 79).

if the group is to determine what is happening, to whom, where, and why.

This phase of the process might be thought of as creating a data bank

of information about the problem.

1.3.1 Sources of Information

One of the first problems confronting a problem-solving group

is where can relevant, timely, and accurate information be found.

Specific sources of information will vary with the nature of the

problem, but generally resources can be found in:

1.3.1.1 Group Members. Especially if chosen for diverse knowledges,
group members are the first sources of information that should be
explored. The resources of the group may provide a wealth of information
with which to start and leads to information search activities.

1.3.1.2 Problem-Area Experts. Various methods can be used to
"pick the brains" of subject-matter specialists who are working in the
problem area. Conferences, short workshops, lectures, etc., have been
used in the past as means of bringing expert opinion to bear. Other
techniques, such as the Delphi Technique developed by Olaf Helmer,
can be used to gather varying expert opinions. Basically, the technique
involves: identifying the leading experts and securing commitment
from them to participate in a panel; framing the question(s) to which
you would like them to respond; securing their answers; circulating
the answers (unidentified) among all participating experts for reaction
and modification. (This is a simplistic representation of a somewhat
complex process.*)

1.3.1.3 Current Journals, Government Reports and Documents,
Research Project Reports, etc. Often the most current information is
first published in the various specialty journals and research project
reports.

1.3.1.4 Current Books. Books are more likely to present in-depth
data and analyses than the shorter journal articles and report documents.
The bibliographies in books can provide further leads.

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*For a more thorough explanation of this process, see: Olaf Helmer,
1967, Systematic Use of Expert Opinion, Santa Monica, California, The
Rand Corporation; Olaf Helmer, 1967, "The Delphi Technique and Educational
Innovation," in Werner Z. Hirsch, ed., Inventing Education for the
Future, San Francisco, Chandler Publishing Company.

1.3.1.5 <u>Current Periodicals and Newspapers</u>. Magazines and newspapers are often good sources of contextual information; that is, they can help paint a picture of the social environment in which the problem and/or change takes place.

1.3.1.6 <u>Professional Meetings, Conferences, Workshops, etc.</u> An investigation of the subjects being covered at various professional meetings being held at the time of your information-gathering process may yield fruitful results.

1.3.1.7 <u>Information Data Banks</u>. Throughout the country there are repositories of selected information. ERIC is an example of an information data bank in the field of education. Data banks collect and store information according to subject area interests, and are supposedly designed to permit easy retrieval of that information.

1.3.1.8 <u>Internal Reports of the Organization</u>. When the problem is directly related to a specific organization, the various records and reports kept by the organization may prove useful. Production records, expenditure records, resource allocation records, and forecasts are examples of organizational sources of information.

1.3.1.9 <u>Large Research Organizations, Public Utility Organizations, Banks, etc</u>. When data about current and future trends in environmental and population changes are needed, one can often elicit the aid of organizations that keep and project that data as part of their ongoing process.

1.3.1.10 <u>People Surveys</u>. It may be necessary for the group to survey the attitude and opinions of a specified target population to gain access to appropriate information. Before undertaking such costly operations, be sure the information is not available elsewhere. Search out ways to combine your group's information needs with others to partially allay costs. C. Backstrom and G. Hursh, 1963, <u>Survey Research</u>, Chicago, Northwestern University Press is a good guidebook to survey methods.

Sources of information, of course, depend on the nature of the problem. The group should attempt to define the pertinent sources of information before initiating the information-gathering process.

1.3.2 <u>Separate Fact and Inference</u>

It might be wise to label all the information collected as fact or inference. "The most basic error in reasoning that one can commit is <u>not</u> to recognize that one is engaged in an inference-making process,

but rather to regard opinions, judgments, and predictions as though

they were statements of fact" (Barnlund and Haiman, 1960, p. 147).

1.3.2.1 Facts are statements based on raw observations. Webster
defines a fact as "a thing that has actually happened or is true;
thing that has been or is; a state of things as they are; reality,
actuality, truth." Statements of fact are based on some human being's
perception of reality and, therefore, in some ways subject to the bias
of that individual's past experiences, assumptions, desires, and needs.
"Factual statements, like facts themselves are, of course, incomplete,
since they derive from sensations which are themselves limited by the
sensitivity of the observer and the conditions under which the observation
was made" (Barnlund and Haiman, 1960, p. 110).*

Facts change. Since the real world is dynamic and undergoing
constant change, perceptions of the world (or facts) will also change.
"Statements of fact are, themselves, static because once they are
verbalized they are available for all time; but reality itself and
perceptions of it are constantly undergoing change and thus there is
no end of new facts to be discovered" (Barnlund and Haiman, 1960, p. 110).

Factual statements should be tested and evaluated. Some criteria
include:

1. Are the facts clearly stated? Material can be phrased deceptively.
   Often the terms used to define the data are ambiguous and mis-
   leading. For example, does the statement--35% of the schools
   in the nation favor using PPBS--give you a clear indication of
   the state of reality concerning PPBS? No, for we don't know
   what the term schools encompasses. Does it mean the public
   schools, does it include colleges and universities, does it
   include parochial schools? Neither do we know what favor
   means. When terms are not clearly defined, the inferences
   that can be drawn from facts will vary widely and in many
   cases be specious.

2. Is the fact stated in context? Partial statements of information
   can also be misleading. Facts that give the user no information
   about the environment in which they are located can encourage
   a false construction of reality. For example, a report published
   in a nationally circulated magazine about the state of education
   in secondary schools painted a dismal picture by using facts in
   isolation. "We, as a nation, were far less well educated in 1950

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*Some other operational definitions of facts that may prove useful
include: "(1) A fact is an occurrence reported by a competent viewer or
an existing situation which can be perceived by others; (2) A fact is
a set of numerical data that conforms to the rules of statistical method;
(3) A fact is a statement about events made by qualified authority"
(Phillips, 1966, p. 77).

than in 1900. More than half the schools in the United States
offered instruction in neither chemistry nor physics. Where
66 per cent of secondary school students once studied math-
ematics, only 55 percent do so today.' According to the AAUP
Bulletin critic, Harold C. Hand, these data are grossly
misleading. A radically different picture of American education
emerges when the facts are put into context. In 1900 only 8
per cent of those of high school age actually attended high
school; in 1950 the figure was 64 per cent. It is true that
less than half of the high schools offer physics and chemistry
but over 1800 of our high schools enroll fewer than 50 pupils
each and thus altogether educate less than 2 per cent of the
total secondary school population. The figures on training
in mathematics and science also need further explanation.
The figure of 55 per cent was probably obtained from U. S.
Office of Education figures on enrollments for the year
1948-1949; algebra, 27 per cent; general mathematics, 13
per cent; geometry, 13 per cent; trigonometry, 2 per cent.
By adding them one comes out with a total figure of 55 per
cent. But this is a report for just one year and students
normally attend high school for four years. With this factor
taken into account it turns out that '98 per cent . . .
studied mathematics in their first year of high school, 47
per cent . . . had done so in their sophomore year, 30 per
cent of those who were in high school as long as three years
had taken mathematics . . . and at least 16 per cent had
enrolled in either trigonometry or solid geometry . . .
during their senior year'"(Barnlund and Haiman, 1960,
p. 116-117).

    If the fact is not stated in context, it will often
be possible for the group members to gather sufficient
additional information to put the information in perspective--
time permitting. Without the context it is difficult to get
a balanced view of reality.

3. Are the facts current or at least dated? With conditions
    changing as rapidly as they are, it is imperative to date
    all information. Facts that represented an accurate picture
    of 1960 reality may be totally inaccurate in 1969.

4. Are the facts collected consistent with one another? When
    the factual information collected is widely divergent, it
    must be viewed with some suspicion until the discrepancy
    can be explained. Discrepant information should be subjected
    to further scrutiny. The divergence may be due to different
    data-gathering techniques, difference in observer reports, or
    a purposeful misrepresentation of reality.

5. Are the facts related to the problem? Individuals and groups
    have been known to use information that is not relevant nor
    related to the problem, just because they have it and truly
    pertinent information would be more difficult to obtain. When
    information does not bear directly on the problem, eliminate
    it from consideration.

6. If all the facts are presented in statistical language, do all members of the group understand them? It is often convenient to present factual material in statistical form. However, an unenlightened reader of statistical information may find the terminology confusing rather than informing. Statistics can be descriptive, inferential, or correlational and it should be clear to the user what kind of statistical information is being used. At least one member of a work group using statistical information should be thoroughly acquainted with statistical usage and interpretation.

7. Do the facts come from a reliable source? Unfortunately, the source from which facts issue sometimes affects the integrity of the information.

8. Does the information source present a clear picture of how the facts were obtained? "A claim to knowledge, when there is any possibility of doubt about its validity, ought to be supported by a description of the claimant's method for collecting the information he reports" (Barnlund and Haiman, 1960, p. 120).

1.3.2.2 Inferential statements are statements of conclusions, judgments, opinion, evaluation, predictions, and interpretation. The human bias is more readily reflected in inferential statements. Inference is the step beyond a statement of fact. The criteria for estimating the reliability of inferential statements extend beyond those used for testing factual information. Criteria of relevancy, currency, reliability, clarity of statement, all apply to inferential statements, but they do not constitute adequate assessment measures. "While factual statements can often be checked through further observation, inferences are more difficult to assess. Since inferences are less dependent upon perception, and more upon the intelligence, education, and experience of the person drawing the inference, there is a far greater opportunity for different opinions and it is far more difficult to resolve divergent views when they do appear" (Barnlund and Haiman, 1960, p. 111).*
When opinion information is being used, the following questions might be asked about the source of the opinion, conclusion, or judgment:

1. What are the source's qualifications in the problem area? An individual's intelligence, educational background, and practical experience with problem-related matters are relevant to evaluating his inferential statements. Further, it should be remembered that a recognized authority in one field is not necessarily the source of credible information in another. There is a natural tendency for the "halo" effect to operate, for people to give undue weight to the opinions of widely-reputed individuals. We cannot assume that a successful

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*We do not mean to imply that either factual or inferential information is preferable as a basis for decisions. Both are important and necessary.

admiral is automatically qualified to be an educational
critic.

2. Is the source relatively free from bias? No one can be
    completely free of prejudice. There are individuals who are
    more able to see things from a broader perspective. They
    attempt to approach situations with as open a mind as possible.
    A clue to the objectivity of the reporter can be found in the
    material itself. "If the opinions tend to be stated in an
    unqualified manner, full of emotionally-loaded language, and
    phrased in ways which reveal wishful thinking, one might well
    be suspicious of the objectivity of the author" (Barnlund and
    Haiman, 1960, p. 134). If on the other hand the author
    presents his views in a well-evidenced manner and admits
    possible sources of error, etc., he is more likely to be
    credible.
        Another indicator of a source's bias is his social,
    occupational, and political affiliations.
        His past record of independence can also provide assis-
    tance in determining his freedom from bias. What is most
    desirable is a fine balance between independence and
    consistency.

3. Do the cited opinions of the source appear to be internally
    consistent with his general point of view? Sometimes
    authorities are quoted out of context. When it would appear
    that there is an inconsistency between an opinion used and the
    general viewpoint of the source, it would be wise to check
    back for the context from which the opinion was taken.

4. Is the opinion well supported by factual evidence? Do the
    statements expressed by the source have some basis in fact?
    Are the facts clearly expressed? Can the opinion have
    logically been derived from the information used by the source?

5. Do we have inferential information representative of different
    perspectives? Care should be taken to collect differing opinions
    on any controversial issue. Bias can be inherent in the
    information-collecting and sorting process, as well as in
    actual statement of opinion.

    When a group is using inferential evidence to support a particular
line of reasoning, two other factors become relevant--probability and
the nature of the relationships implied by the inference.

1. What is the probable validity of the inference drawn by the
    source? While we can never verify the truth of an inference
    or generalization, we can determine the probability of its
    being so. Some generalizations have a higher degree of proba-
    bility than others. Through statistics and carefully drawn
    samples, relatively reliable estimates of probability can be
    drawn.
        It should not be taken for granted that a statement

containing statistics is no longer an opinion. Any prediction about future events must of necessity be an inference, regardless of statistical expression.

Cost-benefit, effectiveness, and utility analyses for education are for the most part inference statements and should be regarded as such.

Most decisions cannot be made without using inferential materials (if they could, there would probably be no question about the preferability of one alternative or another); therefore, it is wise to keep in mind that inferential statements are fallible and that there is an element of probability involved.

2. Is the relationship established by the inference valid?
    Basically, we search for cause and effect relationships. Extreme caution must be exerted in making causal inferences. Generalizations and predictions often hold true in a high percentage of cases, but they can never be regarded as truth. Another caution stems from the fact that there is usually no single, simple cause for any event, particularly where human behavior is involved. In most instances there is multiple causality.

    We also need to be aware of the differences between causal and correlational relationships. Much statistical data demonstrate a correlational relationship between two variables rather than cause and effect.

Ample time should be allowed for gathering relevant information. However, it should be remembered that with the increasing amount of knowledge and information available, it is almost impossible to gather all relevant information. Time and amount of information limitations should be set in advance, and when that point is reached, the group should move on to examining and analyzing the information.

1.4 Organize the Available Information in a
Manner Conducive to Usage and Circulate to All Group Members

With the wealth of information available and necessary for analyzing the complex problems confronting modern organizations, it becomes necessary to organize information in a manner conducive to utilization.

Procedures for organizing information should be established before

collection, so that incoming information can be organized as part of the

collection process; otherwise, the group may find themselves bogged

down before they even start. The organization of the information systems

will vary with the problem or decision confronting the group. Possible

organizational patterns include: isolation of important problem factors

and related information; categorization according to type of information

(survey, experimental studies, cost-benefit studies, etc.); classification

according to technical, economic, legal, social, and political aspects

of the problem; and indexed according to "author" and subject matter.

All group members should have the opportunity to review all the

information gathered if they so wish. The best procedure for ensuring

information exposure will depend on the time and financial resources

of the group. For example, a centrally located library collection for

this particular problem may be developed in which several copies of

the collected information are placed for circulation. Time and money

permitting, personal copies of all materials could be made for each

group member.

1.5 Analyze the Problem in Light
of the Information Collected

Once adequate information has been collected and assessed, the

problem should be reanalyzed. The time is not yet right for developing

solutions.

> Participants as well as discussion leaders focus on the
> objective of arriving at a solution and fail to give due
> consideration to an exploration of the problem. There
> is, therefore, a strong tendency to spend a great deal

of time debating the merits of the first or the most
obvious ideas. Procedures that delay the evaluaticn and
selection of solutions and instead require that more time
be spent discussing the problem tend to improve the quality
of decisions (Maier, 1963, p. 123).

Using the information before them, each member of the group should

express his view of the problem. After an initial airing of viewpoints,

the group can turn its attention to exploring the important factors in

the problem and the related information. From this discussion a written

list of crucial factors car be developed that will provide the basis

for solution, discovery, and exploration.

1.6 Specify Decision Criteria

The reanalysis of the problem should suggest some criteria that

the solution or decision must satisfy in order to meet the change

requirements. At this time, it might be wise for the group to outline

and record the specifications and criteria the decision must meet in

order to satisfy the established needs.

1.7 Generate Alternatives

After careful reexamination of the problem, the group is ready

to create. An important principle to keep in mind at this point is

the separation of the idea proposing and idea evaluation. The goal of

the group in this phase of problem solving is to generate as many

alternatives as possible, not to make judgments on their value.

Research has shown that the wider the group's range of selection, the

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wiser the final choice is likely to be. Novel solutions can be an

open invitation to criticism. Group members must restrain themselves

during the generating aspect of the process in order to provide an

atmosphere conducive to creative thinking.

Group members need to be encouraged to think creatively and

originally about solutions. We are still somewhat in the dark about

the stimulation of creativity, but we do know that full knowledge of

the problem combined with a willingness to discard old patterns of

thought and action is more likely to produce creative problem solutions.*

The following list of creative problem-solving techniques was compiled

by M. O. Edwards (1966, p. 9-10).

1.7.1 "Brainstorming: An intentionally uninhibited, either

individual or group approach. (Criticism is ruled out, free-

wheeling is welcomed, quantity of alternatives is objective,

combination and improvement sought.) The objective is to produce

the greatest possible number of alternative ideas for later

evaluation and development.

1.7.2 "Reverse Brainstorming: Sometimes useful prior to

a brainstorm session. It consists of being critical instead of

suspending judgment. (a) List all the things wrong with the

operation, process, system, or produce. (b) Systematically

take each flaw uncovered and suggest ways of overcoming it.

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*The Synectics Group in Cambridge, Massachusetts, has developed
and researched several techniques for stimulating creativity. Further
information can be obtained in William J. J. Gordon, 1961, Synectics,
New York, Harper and Row; and George M. Prince, 1964, The Practice of
Creativity, Cambridge, Synectics, Inc., 1969; Sidney Parnes (1967)
also has some good suggestions in, Creative Behavior Guidebook, New York,
Charles Scribner's Sons.

1.7.3 "Catalog Technique: Simply the reference to various and sundry catalogs or other source of printed information as a means of getting ideas that will, in turn, suggest other ideas. May be used in combination with the Forced Relationship Technique.

1.7.4 "Check-List Technique: A system of getting idea-clues or 'leads' by checking the items on a prepared list against the problem or subject under consideration. The objective is to obtain a number of general ideas for further follow-up and development into specific form.

1.7.5 "Free Association: A method of stimulating the imagination to some constructive purpose. (a) Jot down a symbol-- word, sketch, number, picture--which is related in some key way to some important aspect of the problem or subject under consideration. (b) Jot down another symbol suggested by the first one. (c) Continue as in Step 2--ad-lib--until ideas emerge. The objective is to produce intangible ideas, advertising slogans, designs, names, etc.

1.7.6 "Attribute Listing: A technique used principally for improving tangible things. (a) Choose some object to improve. (b) List features, or attributes of the object and its parts. (d) Systematically change or modify the attributes. The objective is to satisfy better the original purpose of the object, or to fulfill a new need with it.

1.7.7 "Forced Relationship: A method which has essentially the same basic purpose as free association, but which attempts to force association. (a) Isolate the elements of the problem at hand. (b) Find the relationships between/among these elements (similarities--differences--analogies--cause--and effect).

(c) Record the relationships in organized fashion. (d) Analyze
the record of relationship to find the patterns (or basic ideas)
present. Develop new ideas from these patterns.

1.7.8 "Morphological Analysis: A comprehensive way to list
and examine all of the possible combinations that might be useful
in solving some given problem. (a) State your problem as broadly
and generally as possible. (b) Define the independent variables
present in the problem--as broadly and completely as possible.
(c) Enter the variables as the axes of a morphological chart--or
make a permutational listing. (d) Select the most promising
alternatives and follow them through. The objective is to find
ALL of the possible combinations--for subsequent testing, verifi-
cation, modification, evaluation, and development.

1.7.9 "Input-Output Technique: A method for solving dynamic-
system design problems. (a) Investigate direction (input, resources,
etc.). (b) Establish measures for testing. (c) Develop methods.
(d) Optimize a structure. (e) Accomplish a structure. (f) Convince
others of its value. The objective is to produce a number of possible
solutions which can then be tested, evaluated, and developed.

1.7.10 "Synectics: A structured approach to creative thinking.
Operational mechanisms. (a) Making-the-strange-familiar (through
analysis, generalization, and model-seeking). (b) Making-the-
familiar-strange (through personal analogy, direct analogy, and
symbolic analogy). The objective usually is to produce ONE best
idea and carry it through to testing, verification, development,
and production in final form.

1.7.11 "Inspired (Big Dream) Approach: A 'breakthrough'

approach which sometimes leads to spectacular advancements.

(a) Think the biggest dream possible--about something to benefit

mankind. (b) Read, study, and think about every subject con:ected

with your big dream--and do so regularly, persistently, continually.

(c) Drop down a dream or so, then engineer your dream into reality.

The objective is to make the greatest possible achievement for

human benefit.

1.7.12 "Edisonian Method: An approach consisting principally

of performing a virtually endless number of trial-and-error exper-

iments. A 'last ditch' approach, to be resorted to only: (a) when

other, more systematic methods have completely failed to produce

the desired results; and/or (b) when one is knowingly and necessarily

delving into unknown areas of basic research.

1.7.13 "Kepner-Trigoe Method: A method particularly calculated

to isolating and finding the problem and then deciding what to do

about it. A systematic outline is made to describe precisely

both the problem and what lies outside the problem but is closely

related to it in order to find possible causes of the problem and

facilitate decision-making.

1.7.14 "Bionics: Ask yourself, 'How is this done in nature?'

Nature's scheme of things is revealed to those who search. (Note:

this technique may come into play in synectics when utilizing

analogies.)

1.7.15 "Value Analysis or Engineering: A specialized application

of creative problem-solving to increase value. It may be defined

as an objective, systematic and formalized method of performing

a job to achieve only necessary functions at minimum cost. Six

questions are evoked concerning each part: (a) What is it?

(b) What must it do? (c) What does it do? (d) What did it cost?

(e) What else will do the job? (f) What will that cost?"

Whatever the method utilized to generate alternative solutions
from which to make the final choice, it should be remembered that this
is not the place for evaluation. All solutions proposed by the group
should be carefully recorded for later evaluation.

1.8 Refine and Combine Ideas Into Viable Alternatives

The ideas put forth in the generating phase most likely will
need to be developed, refined, clarified, and/or combined into viable
alternatives.

1.9 Evaluate the Proposed Alternatives

Examining the probable consequences resulting from the adoption
of each of the proposed alternatives is the next process.

1.9.1 Initial Screening

An initial screening may eliminate the solutions that are unfeasible.
You may or may not wish to employ screening principles at this point.
If you feel it would be advantageous to consider only selected solutions
(time may be a crucial factor), the following screening principles might
be used (Maier, 1963, p. 222-234).

1.9.1.1 <u>Alternatives founded either upon (1) unchallenged facts
or (2) unchallenged interpretations of facts taken from the problem</u>

situation should be selected for consideration and evaluation.

1.9.1.2 <u>Alternatives that are founded on support from several</u> <u>sets of data should be considered and evaluated, before those resting</u> <u>on one support.</u>

1.9.1.3 <u>Alternatives with more dif. ring types of supporting</u> <u>facts and interpretation are likely to be more valuable.</u>

1.9.1.4 <u>Alternatives based on personal preference, transferred</u> <u>from dissimilar situations and lacking foundation in facts should be</u> <u>eliminated.</u>

Initial screening can save time by diverting time from debates over

questionable facts and avoiding nonconstructive interpersonal clashes.

1.9.2 Final Evaluation

During the final evaluation process the group should be considering

only those solutions that have a good basis in fact and hold some

potential for viable problem resolution or needs satisfaction. Basically,

the questions before the group at this state are: "How effective and

efficient is each alternative in meeting established needs?", "What are

the consequences of adopting each alternative?", and "How workable is

each of the alternatives proposed?".

Several points of view can be utilized in appraising the remaining

solution proposals: (1) cost, value, and practical considerations;

(2) integration requirements; (3) the facts and inferences supporting

the solution; (4) possible combinations of solutions; (5) predefined

criteria that decision or solution must satisfy; and (6) acceptability

to group members.

1.9.2.1 <u>Costs, Values, and Practical Considerations</u>. Alternativeu

that: (1) fail to meet the future, goal, and output orientations and

expectations of the clients to be served: (2) are not satisfactory in

terms of validity, relevancy, feasibility, acceptability, and reliability

criteria; (3) feature an unfavorable balance between the cost and value

aspects of their probable consequences; (4) require the expen'iture of

more resources than are available to the organization; and (5) require

action beyond the sphere of influence of the decision-making group.

The specifications, limits, and constraints of the alternatives must

be considered in evaluation. The relative advantages of the proposed

alternatives should be estimated and compared.

1.9.2.2 **Integration Requirements and Consequences**. Solutions or

decisions often have co be incorporated into an ongoing organization

or process. All of the alternate solutions must be evaluated in terms

of their compatibility with ongoing systems. The possible consequences

of the various alternatives should also be considered.

1.9.2.3 **Evaluations of Support Evidence**. A final review of the

evidence (factual and inferential) supporting each of the alternatives

should be made.

1.9.2.4 **Combining Alternatives**. The surviving alternatives can

be examined with an eye toward possible combination. Integration of

several alternatives might produce a more sound decision.

1.9.2.5 **Test Against Predefined Decision Criteria**. Earlier we

suggested that the group make a list of specifications and criteria

that must be satisfied in order to meet the needs of the problem

situation. At this time each of the alternatives should be tested

against these criteria.

1.9.2.6 **Acceptability to Group Members**. The human factor of

preference is another point of view that enters into the final evaluation

process. If the decision is to be representative of the group, then

the solution or final decision should be agreeable to all group members.

The final evaluation process provides group members with the
opportunity to assess the comparative value of all alternatives that
have passed through the screening process. At this stage, more than
other phases in the group decision process preferences and biases should
be permitted to operate within a supportive atmosphere. Group members
should feel free to express their opinions and explore the position
of others during this phase.

1.10 Decide

When all the alternatives have been compared and evaluated, the
group is at the point for decision. If a clearly preferable alternative
does not emerge as the result of the final evaluation process, then
negotiation is necessary. Group consensus on the decision is the
object of such negotiation, and a spirit of cooperation and willingness
to bargain must prevail if consensus is to be achieved.

The decision reached by the group should be put in writing, with
all members agreeing to the wording of the decision product. The
written form of the decision will serve as the communication referent
for the course of action to follow. Therefore, careful attention
should be paid to the process of finalizing the decision in writing.

Concluding Remarks

The process outlined above is a somewhat formalized approach to
group problem finding-solving and decision making. It should not be
adhered to rigidly. Time requirements, the nature of the problem,

group member knowledges and skills can all affect the stages the group

must go through before reaching viable alternatives. While it is

helpful for the group to have organizational procedures to follow,

these should never get in the way of the decision process itself.

Remember, group procedures should remain flexible subject to the nature

of the task before the group.

2. Establish An Open and Supportive Climate for Group Activities

The atmosphere (mood, feeling, tone) surrounding and within the

group will affect its productivity. The organizational climate most

suitable for group operations is one in which openness and supportiveness

prevail because it is likely to foster a similar climate in problem

finding-solving and decision groups. The establishment and maintenance

of an open and supportive operational climate requires direct effort

on the part of both management and group participants.

2.1 Openness

In an accepting or open atmosphere, group creativity and productivity

are increased by a willingness of group members to listen, empathize,

trust, share information and accept others' ideas, as contrasted with

a defensive or closed atmosphere where elements of distrust, poor

communication, tension, disagreement, hostility and fear operate as

barriers to group productivity. The climate of the group is bound to

vary, but every effort should be exerted to keep it as open as possible.

An open climate can be encouraged by:

2.1.1 "Good Group Behavior." Be friendly, warm and responsive
to all contributions. Demonstrate a willingness to listen, to hear
a person fully before making comments of your own or seeking others'
reactions.

2.1.2 Accepting and Clarifying Member Contributions. Well-received
contributions are likely to produce more contributions. Sometimes,
mere repetition of a member contribution is a sufficient indicator of
acceptance. Other times, rephrasing or clarification may be the more
suitable mode. The restatement or clarification of someone else's ideas
is likely to encourage cooperation between the original source and the
restater, as well as planting the idea more firmly in other group
members' minds.

2.1.3 Dealing Constructively with Tension When it Arises. Tension
and conflict are vital aspects of effective group productivity. Harnessed
with intelligence, tension helps move the group forward toward its
goal; left unbridled, tension can cause deterioration in group relation-
ships and act as an effective block to group progress.

Keep tension out front, don't allow it to smolder on back burners.
Various tactics can be employed when tension arises in the group.
Choice of tactics to be used will depend upon the situation, what is
causing the tension and the individuals involved. For example, if
the tension has developed because group members are operating on a
"personal" level rather than a "task" level, changing the focus of
the discussion from a personal to a situational perspective will help.
Sometimes, moving the discussion from the hands of those in conflict
to other members of the group will remove the strain. Humor is another
way of relieving nonconstructive tension and lightening the atmosphere;

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however, it should never be at the personal expense of a group member.
If all other methods fail, a coffee break may be the answer.

2.1.5 <u>Being Honest</u>. Openness and honesty go hand in hand.

2.2 Supportive Climate

Closely akin to openness is the principle of supportive relation-
ships. As mentioned earlier, this principle is the guiding light of
participative management. It can also be considered as a guideline for
the managing group processes. In order for problem finding-solving,
decision-making groups to function effectively and efficiently, group
members must feel that the mission put before the group, as well as
those of the larger organization, are genuinely important.

> To be highly motivated, each member of the organization
> must feel that the organization's objectives are of signifi-
> cance and that his own particular task contributes in an
> indispensable manner to the organization's achievement of
> its objectives. He should see his role as difficult, important,
> and meaningful. This is necessary if the individual is to
> achieve and maintain a sense of personal worth and importance.
> . . . Experiences, relationships, etc., are considered to be
> supportive when the individual involved sees the experience
> (in terms of his values, goals, expectations and aspirations)
> as contributing to or maintaining his sense of personal
> worth and importance (Likert, 1961, p. 103).

A supportive climate for group members can be provided by:

2.2.1 <u>Taking Into Consideration the Expectations and Experience</u>
<u>of All Group Members</u>. During the initial meetings of the group, all
members of the group should have the opportunity to share with each
other their expectations for the group. With this knowledge before
the group, it will be much easier for group members to be supportive
of one another. Knowledge of other group members' experience and

"areas of expertise" is also valuable input for supportive group operations.

2.2.2 Empathizing. Being able to put yourself in the "other fellow's shoes" is a great aid in establishing supportive relationships. An individual who can see things from another's perspective can more effectively support, change, and/or help over trouble spots.

2.2.3 Being Sensitive to Changing Needs and Desires of Individual Group Members. The desires of individuals grow and change in the course of interaction with other people and new ideas. It is important that all group members feel free to change and express that change to other members of the group. Encouraging individuals to experiment with new roles, new modes of thinking, new ideas, and new behaviors is supportive of individual growth and change.

2.2.4 Demonstrating a Willingness to Accept Influence From Group Members. An openness to the ideas and criticism of the group members as impetus for changing behavior will also make individuals appear supportive.

2.2.5 Reinforcing Contributing Members. When individuals make contributions to group progress, appreciation of their efforts should be obvious. It is important to reward the behavior of contributing rather than the contribution itself. If value judgments that indicate preference for one member's contribution over another's can be kept out of this reinforcement process, the climate is likely to be perceived as more supportive.

2.2.6 Gathering Feedback on Group Interactions, Operations, and Progress. Willingness to examine group behaviors and effectiveness should be established as part of the mechanisms for improving group

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productivity. Evaluation procedures can be viewed as supportive, if
the evaluation leads to constructive improvement of individual and
group efforts.

2.2.7 Setting High Performance Goals Within the Group. An open
and supportive climate should be the organizational framework for high
performance expectations and aspirations. A supportive climate will
not increase group effectiveness and productivity unless it is
accompanied by high performance goals. ". . . high performance goals
should not be imposed on employees, there must be a mechanism through
which employees can help set the high-level goals which the satisfaction
of their own needs requires" (Likert, 1967, p. 51). High performance
goals should be set by the group for the group.

An open and supportive climate for group problem finding-solving
and decision activities should facilitate the interaction among group
members and other task groups within the organization, thereby increasing
both effective communication and work productivity.

3. Use an Interventionist Approach*

There are many different approaches that one may adopt in managing
group processes: directive, nondirective, democratic, authoritarian,
laissez-faire, etc. These varying approaches differ primarily along
the dimension of control. That is, the degree of control over group
process and participation can vary from none to absolute. An

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*The author is indebted to Dr. John F. Kramer, Research Coordinator
of the Oakland Community Project for suggesting this approach.

interventionist approach* would seem to be one of the more viable

techniques for working with groups of educated individuals who are

coming together to find-solve important problems and make important

decisions. It is assumed that such groups may have an inherent

maturity** that will minimize the need for strong control and guidance

procedures.

Basically, an interventionist approach can be defined as exerting

a modifying influence only when group behaviors indicate a possible

breakdown in the objective achievement process and/or a need for guidance

in starting, maintaining, or concluding the group process. The "officially"

designated leader functions in that capacity only when needed. He

acts only if the group experiences difficulties serious enough to

threaten group morale, efficiency or effectiveness and only when the

group members themselves do not appear able to cope with the problems.

If the group is moving toward its objectives in a relatively constructive

atmosphere, the interventionist manager moves with the tide and does

nothing to alter it. If, on the other hand, obstructions to progress

arise, threatening storms appear on the horizon and group members do

not appear prepared to handle problems, the interventionist manager

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*The style of leadership exerted by the manager of the group process
should, however, be consistent with the personality characteristics of
individual members, group norms and expectations, and the norms of the
larger organization within which it operates (Golembewski, 1965). The
interventionist approach will probably prove most functional in organi-
zations with open climates operating under participative management.
Groups used to working under authoritarian systems may need an authori-
tarian leader to achieve the same degree of productivity.

**Group maturity is evidenced by a combination of member skills
that promotes group efficiency and effectiveness. Mature groups are
self-directed and self-controlled, with every member sharing in the
responsibilities for developing and executing group activities.

may move into action. For example, if group members become seriously

polarized on an issue, he may intervene to bring more objectivity to

the discussion. If the discussion strays too long from the course,

he may try to move it to a more profitable track by clarifying objectives

and suggesting new directions. If several members of the group remain

nonparticipative over a relatively long period of time, he may intervene

to draw them into the activities. In all instances, however, the

individual responsible for managing group process intervenes only when

the group appears to be floundering or misguided under shared leadership.

3.1 Sharing Leadership Functions and Responsibilities

Underlying the interventionist approach to group management is

the concept of shared leadership. If leadership is defined as "a set

of functions which must be carried out in order for the group to maintain

satisfying human relationships, coordinate its energies, and perform

its assigned tasks" (Barnlund and Haiman, 1960, p. 293), two questions

arise, WHO? and HOW? When leadership is viewed as a set of functions

or actions, rather than a combination of personality traits or a matter

of status, it becomes possible to distribute it in a variety of ways.

Ideally, the functions and actions necessary for moving the group

forward should be shared by all members of the group. This might be

called a diffused leadership model. Diffused leadership means that the

total leadership talent of the group is utilized, with each group member

assuming responsibility for the performance effectiveness of the group.

Shared leadership is likely to increase involvement of all group members.

Designating a group leader often sets that individual apart from

the group and sterilizes the effectiveness of that individual as a
contributing group member. Shared leadership means all members of the
group are fully operative, integral, functioning elements in the group
process, all free to contribute information and opinions.

Shared leadership can also diminish status differences. Perceived
differences in status have been found to impede the flow of information
and communication and stifle criticism (Collins and Guetzkow, 1964),
the egalitarian approach to leadership should decrease perceived status
differences and increase the flow of information, communication, and
healthy criticism.

An additional advantage of shared leadership lies in the fact that
the group does not become disabled or move toward chaos if the leader
is absent. Since there is no specialization of the role and since
no one individual holds the position, the group cannot become dependent
on any one individual to perform the leadership functions.

Shared leadership affords all group members the maximum opportunity
to develop their own skills of leadership. It can even be viewed as a
human resource development aid, as it contributes to professional and
organizational development through developing leadership capabilities
among a greater number of employees.

Even when shared leadership is the operating norm of the group,
there will be times when the group needs to be prodded, rescued, re-
routed, etc. At those times the individual holding the formal respon-
sibility of managing the group process intervenes. Some of the more
typical kinds of intervention activities include: (1) encouraging
balanced participation and a free flow of communication; (2) directing
conflict toward constructive effects; (3) channeling group energies;

and (4) keeping time limits and constraints before the group.

3.2 Encouraging Balanced Participation and a Free Flow of Communication

At one time or another most groups face problems of unbalanced

participation and breakdowns in communication that impede the progress

of the group. The most common participation problems are nonparticipation

and/or monopolization of group communication by one or two members of

the group. These problems can be avoided to some extent through

training individuals to work and communicate in the small group situation.

3.2.1 Nonparticipation

Nonparticipating behavior from members of the group can indicate:

apathy or lack of involvement with tasks before the group; disillusionment

with leadership, norms of the group or the interpersonal relationships

in the group; a group size too large to permit contributions from all

group members; a restrictive-directive climate; fear of criticism or

opposition; habits of nonparticipation--submissiveness, cynicism, lack

of confidence in ability to interact successfully with group members,

etc. Whatever the cause, nonparticipating, noncontributing group

members do not increase the effectiveness and productivity of the group.

Certain steps can be taken to forestall nonparticipation problems.

(1) One of the best ways of ensuring participation is to select

individuals for group membership who are vitally interested

or involved with the problem or decision at hand. Personal

involvement with the issue is an impetus for communication.

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(2) As mentioned earlier, an atmosphere that is open and supportive

is conducive to participation. Therefore, in initial phases

of group operation, group norms that reinforce expression

of ideas and opinions under optimal listening conditions

and discussion of contributions in an open, honest, and

nonprejudiced manner should be established.

(3) Training sessions emphasizing member responsibility for

participation can also be useful in forestalling nonparti-

cipation problems. Different ways of participating can be

emphasized such as: supporting other members' contributions,

clarifying others' ideas, asking exploratory questions,

playing the devil's advocate, etc. Such training sessions

can be useful in developing the skills necessary for shared

leadership.

Even with such anticipatory measures taken to encourage participation,

there are likely to be occasions when group effectiveness is hindered

by nonparticipating members. In such instances, the interventionist

manager can:

3.2.1.1 Ask the group as a whole how they feel about the issues
being discussed. This places responsibility for contributing on all
group members.

3.2.1.2 Create opportunities to indicate agreement or disagreement.
The group manager can check for agreement and other points of view in
the group by asking such questions as "How do the rest of you feel about
that" or "Let's talk about how that solution might work."

3.2.1.3 Ask exploratory rather than judgmental questions. Questions
put in an exploratory vein tend to raise issues that require further
exposition or thought.

3.2.1.4 Introduce long pauses. For some reason human beings
cannot sit in silence, so pausing for responses or other contributions
can prompt more discussion.

3.2.1.5 <u>Assume the role of devil's advocate.</u> Taking an unpopular point of view can stimulate contributions from group members. This tactic is not only effective in producing a higher level of interest, it also serves as a healthy antidote in groups where unanimity is too often or too readily achieved.

3.2.1.6 <u>Design some interest-stimulating activities.</u> Field trips, lectures, controversial films, role-playing activities, etc., can provide group members with fresh insights and inputs.

3.2.1.7 <u>Give special assignments to inactive members.</u> For example, an inactive member could be asked to summarize the discussion, keep records or pose questions during one or several of the meetings.

3.2.1.8 <u>Encourage the more active members of the group to draw in the less active members.</u> Active group members might call on inactive members to get their reactions.

3.2.1.9 <u>Subdivide group into smaller groups.</u> A smaller group will necessitate contributions from all members. Often when a problem is extremely complex, time can be saved by dividing the tasks among small subgroups.

3.2.1.10 <u>Use a group feedback session in which the problem of balanced participation is put before the group.</u> Depending on the seriousness of the problem, it may be worth the time to stop the discussion of the issues at hand and focus for a moment on the group process and the lack of participation by some members.

3.2.2 Overparticipation

The other obstacle to balanced participation and free-flowing communication is overparticipation or domination of group activities by one or two group members. Continuous domination of group process by a few individuals can lead to increasing noninvolvement on the part of other group members. Overparticipators tend to be authoritarian, dogmatic, and assume superiority in their contributions. When group progress suffers because one or two members are dominating the discussion, the group manager can:

3.2.2.1 <u>Intervene at a logical point and ask for someone else's opinion on the issue.</u>

3.2.2.2 <u>Call member(s) aside and point out the problem.</u> Sometimes
people are unaware of their domination. The group manager can even
approach the issue as though it were a problem of getting some of the
other group members to participate, and enlist the help of the over-
participator in drawing more people into the discussion.

3.2.2.3 <u>Use group feedback and evaluation techniques within</u>
<u>a group session to focus on the problem.</u>

3.2.2.4 <u>Assign the overparticipator the role of group process</u>
<u>observer or recorder.</u>

3.2.2.5 <u>Put the dominator in social quarantine, if all else fails.</u>

An atmosphere in which all group members have an equal opportunity

to participate should prevail. When signs of imbalanced participation

become apparent, an intervention to re-establish a sense of balanced

contribution and participation should be made.

3.3 Making Constructive Use of Conflict

Because individuals have different values, different sets of

experiences, and different information, all groups are likely to be

faced with internal conflicts during work sessions. In most instances,

decision means choosing from among viable alternatives; and because

there are different possibilities, there are bound to be differences

of opinion . . . and conflict. Differences are vital to the decision-

making process, but bitter, strongly personal, unresolved differences

can immobilize the group. Three types of conflict are frequently

operative in group process: interpersonal conflict, issue conflict,

and value conflict.

<u>3.3.1 Interpersonal Conflict</u>

The hostility stemming from interpersonal conflict can rarely
be put to constructive use. Clashes arising from personality differences,
the dislike of one human being for another, personal antagonism or
hostility are likely to send the group round in circles rather than
forward toward its goal.

Interpersonal hostility can be expressed in many ways; a tendency
to monopolize the group discussion with a rapid-fire barrage of
information and opinion, persistent negativism, belligerence, dogmatic
expressions of opinion, biting jokes at the expense of other group
members, cynicism, excessive moralizing, and blocking others' contri-
butions through excessive criticism. Underlying most of the manifes-
tations of hostility are frustrations and/or insecurities.

The manner in which the interpersonal conflict is dealt with is,
in part, determined by the nature of the conflict. Possible approaches
to dealing with interpersonal conflicts that impede the progress of
the group towards its goals include:

    3.3.1.1 <u>Providing opportunities for the members of the group</u>
<u>to engage in activities together which enable them to get to know each</u>
<u>other as human beings and help build feelings of friendship and rapport</u>
This might be termed a "preventative" approach. It involves the
process of building relationships among group members before moving
directly to task activities.

    3.3.1.2 <u>Focusing on the problem</u>. Invoke feedback and group self-
evaluation mechanisms and explore the problem that is subverting group
energies.

    3.3.1.3 <u>Role-playing</u>. Often members of the group can work through
interpersonal conflicts by using socio-dramatic techniques such as
role-playing. Such devices permit those most heatedly involved to
observe their behavior from another point of view.

    3.3.1.4 <u>Taking time out for a summit conference</u>. If the situation
is too volatile to handle in the group situation, private talks with
the sources of conflict should be arranged. These can be either separate
or joint, depending on the nature of the conflict.

    3.3.1.5 <u>Redirecting hostile energies</u>. If the source of conflict

is an habitually hostile individual, efforts can be made to rechannel his energies. For example, such an individual might be asked to give a special report on cne aspect of the problem or asked to help encourage those members of the group who tend to be monparticipators. In other words, if some constructive task for his energy can be found, it is less likely to turn into hostility.

3.3.1.6 Reshaping the group. If interpersonal conflict persists, changing group membership may be necessary in order for the group to achieve its goals.

3.3.2 Issue Conflict

Issue conflict is natural in the decision-making process, for if there were no conflict of opinions, there would be no need for a decision. In most instances, group members will deal with their disagreements over issues in the course of the group discussion. If, however, there are indicators that the disagreements are building to an overly aggressive and unresolvable conflict, the following types of intervention may prove useful:

3.3.2.1 Clarifying the locus of disagreement. To keep disagreements over issues from moving to a personal level, group members can be asked to be more "concrete" in their explanations of position. Forcing the argument to the level of explanation may ward off personal attacks and isolate the point of contention at a level where it can be dealt with.

3.3.2.2 Refocusing on the problem. It may be wise to take time out and examine the group goals and objectives. With a goal focus, the mutual benefits that can result from ironing out the conflict can be emphasized. Existence of a common purpose makes it possible to tie controversies over lesser objectives to the attainment of the larger group purpose.

3.3.2.3 Focusing on supporting evidence. Issue conflicts can often be resolved by carefully examining the validity and/or reliability of the evidence being used to support the arguments.

3.3.2.4 Pointing out areas of agreement. It may prove useful to search out areas of agreement. There may be less difference of opinion than would seem apparent.

3.3.2.5 Summarizing the conflicting positions. Asking those involved in the conflict to summarize their positions is another way

of isolating the locus of disagreement.

3.3.2.6 Shifting to another aspect of the problem. If the issue
cannot be resolved at the moment, shifting to some other aspect of the
problem may relieve the tension and start the group moving forward
again. When the issue has had time to cool down, it may not raise the
same degree of conflict when brought to the fore again.

3.3.2.7 Negotiating. If the issue remains unresolved, the attention
of the group should be turned to negotiation and compromise.

Issue and opinion differences must be resolved if all group members

are to feel satisfied with the final choice. In the midst of conflict,

it might be wise to point out that the group is searching for alternatives

acceptable to all.

3.3.3 Value Conflict

The most difficult type of conflict to resolve is that originating

from differences in values. Values are "those conceptions of desirable

states of affairs that are utilized in selective conduct as criteria

for preference or choice or as justifications for proposed or actual

behavior" (Williams, 1967, p.23). Values are by their nature persistent.

Since they serve as criteria of judgment and action, they are not as

open to be judged and reevaluated as opinion. When an individual

holds to a position because it is or isn't in accordance with those

things he values or rejects, it is going to be difficult to change him.

The process involved in overcoming value barriers is likely to be long

and time consuming. Value conflicts can be exposed and possibly resolved

by: (1) ferreting out and testing the theoretical assumptions on which

the values rest and/or (2) empirically examining the consequences of

beliefs through experimentation and/or experience.

When the group is faced with making policy decisions, value conflict

is likely to be present, as setting policy involves making value judgments and choices. If possible, plenty of time should be allocated for policy decision making to permit value examination and change.

Conflicts, whatever their nature, must be resolved if maximum effectiveness and productivity is to be achieved. They are useful sparks to ignite movement of the group toward its goal, but left untended, they can impede progress and cause total breakdown of group efforts.

3.4 Channeling for Group Productivity

Often the energies of the group need to be channeled toward productivity. It is easy for a group to get off the track, lose cognizance of the time allotted for solving the problem or reaching the decision, dissipate their energies in unfruitful ventures, and/or find themselves constrained by the work environment. Intervening in the work situation to assure group productivity can involve:

3.4.1 Making Sure the Work Environment is Conducive to Problem Solving and Decision Making

Problem-solving and decision-making groups require a comfortable working situation that: (1) encourages interaction and the free flow of communication between participants; (2) facilitates the consideration of alternatives; and (3) is free from distractions. The trend seems to be toward the establishment of a specific room for group problem finding-solving and decision making.

Setting aside a specific room can eliminate the tendency to be constrained and interrupted by routine functions of the organization.

A decision-making room can be designed specifically to aid the interaction and consideration processes. Chairs and tables can be arranged to promote a free flow of discussion. Visual aids, such as blackboards, display areas, overhead projectors, film projectors, screens, etc., can be included among the permanent accessories in the room permitting immediate utilization.

Constructing and maintaining a conducive physical atmosphere is one way of channeling the resources of the organization to promote group productivity.

3.4.2 Keep Time Limits and Constraints Before the Group

Often problem finding-solving and decision-making groups will be operating under time deadlines, which makes efficient use of the time allotted a necessity. When time constraints impose pressures on the group, it may be wise to take time to develop a workable operations plan that will move the group towards its goal within the given time period. To this end, it may be advantageous to develop an operations network and schedule (PERT) the problem-solving or decision-making activities. Using network-based management procedures to estimate, in advance, the time necessary for definition of the problem, data-gathering and evaluation, alternative development and consideration, etc., impending bottlenecks can be indicated and avoided, personnel can be allocated appropriately, deadlines can be established and starting times determined (see Allen Buckner, Network-Based Management Procedures, Operation PEP, 1970).

3.4.3 Keep the Goals Before the Group

In order for groups to be productive, their efforts must be directed toward some goal. Goal statements can be written on the blackboard or projected on overheads for the purpose of reminding the group where it is they are going.

Channeling group efforts by providing a framework (physical and mental) for group members is the type of preparatory and continuous intervention that even the most efficient groups will benefit from.

Using an interventionist philosophy in managing group processes provides the maximum freedom and responsibility for both the group members and the individual formally assigned the task of managing the group. Participative management reaches its zenith when the need for intervention becomes negligible.

4. Encourage Group Feedback and Evaluation

All objective-oriented groups need to stop periodically and assess the group experience. "Through intelligent use of feedback a group can reinforce patterns of interaction that increase its effectiveness or modify norms that interfere with its operation" (Barnlund and Haiman, 1960, p. 388). In this context, feedback simply refers to reviewing the past actions of the group to find out how they advanced or retarded progress toward the group's goals. Several approaches to feedback and group evaluation are available.

4.1 Free-Flow Feedback and Evaluation

Unstructured feedback and evaluation procedures allow the group

to stop whenever the time is ripe and look. Two factors affect this approach: WHEN? and WHAT?

4.1.1 Timing of the Feedback Process

There is no one answer to the question of: "When should a group discuss its own process?" Feedback activities can occur during a specified time at the beginning or end of a meeting or whenever something occurs in the group that deserves attention. Advocates of the regular set time feel that group self-analysis is ensured if there is a regular time set aside for it. Further, the regular and systematic review is likely to be more objective. Just as it has its advantages, regular evaluation periods also have their limitations. For example, we know that any prescribed routine can deteriorate easily into empty ritual.

Proponents of the "discuss your problems as they arise" school argue that on-the-spot analysis of trouble spots is likely to be more accurate. Group members may have difficulty dredging up past experiences that are over and done with and reacting anew to them. Discussing problems as they arise during group sessions can prevent them from turning into more serious ones, but it can also break the continuity of group thought.

Probably a judicious mixture of spontaneous and routine evaluation is the most beneficial to group productivity.

4.1.2 Content of Self-Analysis

Anything is grist for the self-analysis mill. Anything that appears

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to have affected group performance can be discussed. Organization of
the meeting, physical surroundings, extent of apathy in the group,
group norms, the information level of the group can all be examined
with an eye towards improving the next time.

It is important that this type of analysis be handled objectively,
and that all group members have the opportunity to offer their reactions
as frankly as possible. There will be less chance for distortion if
faulty or biased interpretations can be corrected on the spot, and
all members are likely to profit from the sharing of evaluations.
"As people talk about their own impulses and reactions they are likely
to become more critical of themselves and more highly motivated to
improve their behavior. A few minutes of evaluation can clear channels
of communication, dissipate antagonisms, correct inappropriate procedures,
and increase motivation for working more effectively in the future"
(Barnlund and Haiman, 1960, p. 392).

4.2 Structured Feedback and Evaluation

There may be instances when more specific information about group
processes are required. To this end, the feedback and evaluation can
be structured. There are several ways to do this.

4.2.1 Post-Meeting Reaction Form

When the group would like to gather information on specific issues
and/cr behaviors or keep a continuing record of group evaluations, a
p.m.r. form may prove worthwhile. A p.m.r. is simply a written questionnaire
of some kind designed for administration after group sessions to

elicit comments from the group on critical aspects: of the issues
before the group; the relationships in the group; the group's progress;
and satisfaction. It can include items evaluating both task and process
areas, or focus on any one aspect of group process.

4.2.2 Group Observers

If the group wishes a different perspective, that is, one that
operates from a nonparticipative view, observers can be appointed.
Observers are more apt to give an unbiased picture of the group process
than members who are thoroughly involved in the proceedings of the
group. The kind of feedback the group feels will be beneficial determines
the focus the observer takes. Some groups may want a report on the
problem-solving mechanisms of the group--the quality of the thinking,
the handling of the evidence, the testing of alternatives, the creativity
of the alternatives proposed, the diagnosis of the problem, etc. At
other times the group may wish to focus on the interpersonal relation-
ships and climate of the group looking at: the nature of the group
atmosphere, amount and kinds of individual participation, interpersonal
tension and its release, leadership, lines of communication, etc.

Observers should know why they are there and the nature of the
report they are to give. Some groups may wish just an objective
description of the meeting, others may wish interpretation and/or
evaluation. A well-thought-out form, detailing the type of information
the observer is to collect, can be exceedingly helpful in the data-
collection process.

Observers can be either members of the group, who for the moment
assume the observers' chair or individuals trained in observation of

group process. Both have their advantages and disadvantages. Rotating

the role of observer among group members can often improve their

sensitivity to group process and their role in it. On the other hand,

using a member of the group as an observer deprives the group of his

knowledge and skills. Although a trained observer can provide the

group with valuable insights into their group behavior, there may be

scme problem establishing the credibility of the observer and his input.

4.2.3 In-Process Technical Aids

If the group is interested in assessing the emotional tone of the

group and the relative strengths of reactions to issues or events

occurring, a reaction profile of the group can be made with the use

of electronic devices such as light boards, which are set up with

responders for each person, and a control bank of relays. These have

limited value as feedback devices, since they tend to draw attention

to themselves.

Whether structured or free-form, feedback and evaluation procedures

are essential elements in efficient and effective group processes.

Feedback procedures facilitate the development of group maturity and

productivity. They make operating in groups a learning experience

for all members, increasing their abilities to function more effectively

in future task groups. Without such aids the group experience is

likely to go unexamined and unevaluated, and thus not contain the

human resource development potential that is present in feedback-

oriented groups.

Summary and Conclusions

Managing group process within the context of a larger and more
formal organized structure requires sensitivity to the organization,
the group, and the individuals who make up the group. Integrating the
values, needs, and goals of all three into an effective and productive
force for change will depend on developing a high degree of structural
and style harmony. That is, to achieve optimum task and socio-emotional
performance in problem finding-solving and decision-making groups, the
leadership and/or management structure and style, and framing and guiding
the group process must be compatible and congruent with the expectations
of individual members, as well as the norms of the organization.

The guidelines offered in this chapter will prove most useful
in matrix organizations operating in the participative management vein.
Within the "participation" framework, the individual who is formally
designated as responsible for group performance serves mainly facilitating
functions. These functions might include (among other things):
(1) initiating group process: (2) planning for a systematic approach
to the problem or decision: (3) making agenda and procedural suggestions:
(4) facilitating and contributing input: (5) stimulating information
and opinion exchange among group members: (6) sparking creativity;
(7) clarifying; (8) developing and maintaining a climate conducive to
group productivity; (9) peace making: (10) encouraging constructive
critical processes; (11) maintaining balanced participation: and
(12) instigating group self-analysis and feedback procedures.

An effective, productive, and mature group is an indicator that
the group manager is functioning effectively as a facilitator of

optimum group performance. Lippitt and Seashore (1962, p. 53-55)

point out some indicators of group maturity that may prove useful

focus points for analysis of the group and the facilitating group

manager:

1. Ability to integrate group and individual goals.

2. Different members performing appropriate leadership functions as needed.

3. Balance of communication between content and feeling--and the freedom to communicate both.

4. Tolerance for a wide range of individual behavior.

5. Adequate cohesion for efficient functioning.

6. Appropriate decision-making procedures--with minority viewpoints being considered--and a growing awareness of consensus.

7. Flexible group procedures adapted to accomplish the task.

8. Ways of examining group operation, with members giving and receiving frank reactions to individual behavior.

9. Appropriate use of the resources available to the group.

If task groups are not functioning effectively and efficiently,

the manager of group process should intervene to improve group performance.

A group not functioning up to par may exhibit any number of warning

signs that can signal a need for intervention. The following list of

warning signs and possible kinds of intervention may prove useful in

helping a floundering group.

Warning Signs	Possible Kinds of Intervention*
1. Apathy, indicated by pro- longed silences, indifference to group task, side conver- sations, day dreaming,	1. (a) Draw nonparticipating members into discussion through direct questions. (b) Play the devil's

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*This is in no way intended to be an exhaustive list of actions a group manager could take to overcome the problems indicated.

Warning Signs	Possible Kinds of Intervention
irrelevant comments, general passivity, lack of confidence in ideas.	advocate, assume an unpopular view of stimulate interest. (c) Give inactive members a specific assignment in group. (d) Ask apathetic member to clarify point made by someone else. (e) Have group discuss apathetic overtones.
2. Monopoly of discussion by one or two of the group members or psychological domination by one or two of group members that discourages initiative of other members.	2. (a) Ask another group member for his opinion on issue being discussed. (b) Solicit group feedback from others on effect of monopolization or domination. (c) Ask dominator to serve as recorder or group process observer. (d) Outside meeting, ask help of monopolizer in drawing out nonparticipating members. (e) Socially quarantine the dominator through isolation by other group members.
3. Interperso conflict--hostility (a) Overt 'lity can be indicated cessive talk, excessive iticism, belligerence, d atisn, inflexibility, namecalli vert put-downs of ideas, chr fighting, deflating rs' status. (b) Indi manifestations of hostility include: biting jokes, murmurs of disapproval, negativism cloaked in rationality. (c) Heated personal disagreement over issue.	3. (a) Search for areas of agreement--might have group make lists of least and most controversial issues. Have group consider least controversial issues first. (b) Ask those involved in this disagreement to summarize their positions. (c) Role-play the conflict through other group members. (d) Shift discussion to another issue less fraught with conflict. (e) Attempt to move level of discussion from personal to situational or issue level.
4. Straying from topic or task.	4. (a) Ask question of group to move them back to topic. (b) Periodically summarize and review progress. (c) Remind group of objectives.

Warning Signs	Possible Kinds of Intervention
5. Formation of cliques or sub-groups—either from too much or too little interest.	5. (a) Make new openings for private conversers to bring their points of view before the group. (b) Bring problem before group for consideration. (c) Take a break to give members time to get personal matters resolved.
6. Dismissal reactions—rejection of ideas either in a verbal or nonverbal manner—indications that there is a wish to delve no further into issue.	6. (a) Ask for reasoning behind rejection behavior—why? (b) Ignore if individual reaction and attempt to move group forward in consideration of the issue.
7. Evasive reactions—detour around issues instead of confronting—use of platitudes in place of criticism.	7. (a) Ask direct questions hitting on target issues. (b) Ask exploratory questions aimed at drawing out more in-depth reactions.
8. Polarization—tendency to regard issue in terms of two mutually exclusive categories—tendency to eliminate middle ground.	8. (a) Present another way of looking at the problem. (b) Point out principle of relativity. (c) Provide open climate, so people are not afraid to change positions.

Throughout the group process, the facilitating manager should encourage feedback and self-examination of individual and group behavior. Examining member and manager behavior may be facilitated through the questions raised in the following check lists. Additional questions should be added for more thorough analysis.

Group Member Participation Questions

Information

1. Is the participant's evidence pertinent, plentiful, and documented?

2. Does the participant recognize the limitation of his own evidence?

3. Does he supply information to supplement or test information contributed by other members of the group?

Critical Thinking

1. Does the participant contribute one point at a time?

2. Does he answer questions directly, specifically, briefly?

3. Does he test all thinking by critical, logical analysis?

4. Does he distinguish fact from opinion?

5. Does he distinguish disagreements in language from more fundamental disagreements?

Cooperation

1. Does the participant listen attentively?

2. Does he stay on the subject?

3. Does he make every effort to bring out all points of view?

4. Does he exhibit willingness to change his opinion when change is justified?

5. Does he support needed leadership?

6. Does he define areas of agreement and possible agreement?

7. Does his manner of disagreeing or criticizing promote group harmony?

8. Does he recognize and approve useful contributions?

9. Does he contribute to the enjoyment of the task?

Group Management Questions

1. Has the manager established and maintained an open climate?

2. Is the manager supportive of all individuals in the group?

3. Does the manager get or give accurate periodic summaries?

4. Does he give or get clarification of vague or ambiguous contributions?

5. Does he promote evaluation of all generalizations?

6. Does he separate idea getting from ideal evaluation?

7. Does he protect minority opinion?

8. Does he minimize interpersonal conflict?

9. Does he make constructive use of issue or situational conflict?

10. Does he assume leadership functions only when necessary?

APPENDIX A: A LIST OF PROPOSITIONS ABOUT GROUP PROCESS
            THAT WOULD APPEAR RELEVANT FOR EDUCATIONAL
            DECISION MAKERS

A LIST OF PROPOSITIONS ABOUT GROUP PROCESS
THAT WOULD APPEAR RELEVANT FOR EDUCATIONAL DECISION MAKERS*

Use of Appendix A

Some aspects of small group problem finding-solving and decision

making have been the focus of empirical research. In Appendix A you

will find a list of propositions developed through careful analysis

of research findings* that may prove helpful in setting up groups

to ensure maximum productivity, using groups only with those tasks

that prove especially amenable to group process, anticipating problems

and planning to prevent them, and solving problems when they do arise.

For example: (1) in drawing together individuals for a group

task, one should be aware of the influence the perceived power-status

has on communication and balanced participation (p. 149, propositions

under 2.3); (2) group activities usually require more man hours than

individuals working alone (p. 148, proposition 1.3), so groups can be

effectively used only when adequate time and resources are available

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*This list of propositions is drawn from B. Collins and H.
Guetzkow, 1964, A Social Psychology of Group Processes for Decision-
Making, New York, John Wiley & Sons, and represents one of the better
abstractions made from available research data. The basic list is
supplemented with other propositions offered by J. Klein, 1956, The
Study of Groups, London, Routledge & Kegan Paul, Ltd. Propositions
drawn from Klein are indicated with an asterisk.

for the "extra" expenditures; (3) knowing that permanent leadership

causes restricted communication patterns (p. 151, proposition 2.12),

the group manager may wish to help the group develop skills for diffused

leadership; and (4) in resolving conflicts over issues, it is best to

use facts (p. 154, proposition 5.2.1).

Hopefully, these propositions, combined with the guidelines, will

be helpful to educators who are beginning to work with and through

problem finding-solving and decision-making groups.

1. Group and Individual Performance

    1.1 When several individuals work collectively on a single task
        their activities will (a) overlap and/or (b) make a division
        of labor possible.

        1.1.1 For tasks which involve creating ideas or remembering
              information, there is a greater probability that one
              of several persons will produce the information than
              that a single individual will produce it by himself.

    1.2 When several individuals are limited to a single product
        (decision), it will be selected from available ideas and
        information.

        1.2.1 The final group product will exclude some of the ideas
              and information potentially available to each member.

        1.2.2 The accuracy and quality of the final group product
              will be increased through the elimination of inferior
              individual contributions.

    1.3 A group of individuals working together will usually consume
        more man-hours when compared to (a) an equal number of indivi-
        duals working separately, and (b) a group with fewer members.

    1.4 When an individual works in the presence of other persons,
        a variety of social motives become relevant which are not
        evoked when an individual works alone.

        1.4.1 The presence of other individuals will frequently
              increase individual productivity, although the effect
              may be temporary.

        1.4.2 The presence of other individuals may increase the

defensiveness of the individual, although the effect
may be temporary.

1.4.3 The presence of other individuals can constitut? a
distraction and lower productivity.

1.5 The quality of the group product frequently increases when
group members utilize social sources of knowledge.

1.5.1 The group is likely to accept a member's contribution
(a) when it is well supported by evidence, (b) when it
is logically sound or internally consistent, and (c) when
it is consistent with past experience.

1.5.2 The social weighting given to the majority opinion
frequently causes the better alternatives to be chosen.

1.6 Group members may collectively achieve more than the most
superior members are capable of achieving alone.

*1.7 Where a problem to be solved has no correct and verifiable
answer, the speed with which a conclusion is reached varies
inversely to the size of the groups.

2. Communication, Status, and Interaction

2.1 Interaction will be unevenly distributed among group members.

*2.1.1 Valuable members are likely to be regarded as productive.

2.2 The more interactions initiated by a group member, the more
interactions will be directed to him by other group members.

*2.2.1 Frequent contributors speak to one another and tend
to support one another, reinforcing each other's high
status and maintaining the lower status of other members.

2.3 The power-status hierarchy will influence the flow and content
of communication within the face-to-face group.

2.3.1 When there is an established power-status hierarchy,
all group members will direct more communication to
high power-status persons.

2.3.2 When a status hierarchy is still in the process of
being developed, participants who aspire to high
status will communicate more to low status persons
than other aspiring high status persons.

2.3.3 High power-status persons will initiate more
communication than low status persons.

2.3.4 The content of communication from low to high

power-status persons will depend on what the low status person has learned is most likely to obtain reinforcement.

*2.3.5 When status differences are recognized by members of the group, low status members tend to inhibit their own communications. Thus communication becomes restricted and authority divorced from skill.

*2.3.6 Frequent speakers make more suggestions and give their opinions relatively more frequently than quiet members. Quiet members tend to communicate relatively more frequently their approval or disapproval of what has been suggested by more frequent speakers.

*2.3.7 Consciousness of high status improves performance and increases the tendency of other members to perceive a performance as good. The opposite is true in the case of low status members. Skill itself is therefore to some extent a socially determined characteristic.

*2.3.8 Consciousness of status differences may affect the content of communication in the following ways:
(a) high-status members criticize low-status members;
(b) high-status members do not criticize one another;
(c) low-status members express more confusion with the task although they make no more errors; and (d) low-status members feel they cannot make as good suggestions as high status members.

2.4 High power persons possess more influence.

2.4.1 High power persons exert influence without making overt behavioral attempts to influence.

2.4.2 High power persons will initiate more communication classified specifically as influence attempts.

2.4.3 High power persons will be successful in a larger percentage of the influence attempts which they do make than lower power persons.

2.5 High power persons will be less affected by the efforts of others to influence them.

2.6 High power persons tend to form cliques.

2.7 Low power persons will behave deferentially toward high power persons.

2.8 Low power persons will be suspicious of high power agents who can arbitrarily award or withhold important resources.

2.9 Low power persons will be threatened if ambiguity exists in their relationships with high power agents.

2.10 Communication will be directed toward (a) persons in close physical proximity, (b) persons in the same work group, and (c) the same socio-economic status.

    *2.10.1 Members who like one another will tend to respond to one another more frequently than to those they like less well.

2.11 Communication serves to increase the uniformity of opinion within the group.

    2.11.1 A high number of communications will be addressed to an accepted group member who expresses deviate opinions.

    2.11.2 Rejection of the deviate and subgroup formation will result in a low number of communications addressed to an unaccepted group member who expresses deviant opinions.

    *2.11.3 The contributions made by unpopular members tend to be disregarded.

*2.12 Restricted communication is characteristic of permanent leadership hierarchies.

*2.13 Groups will form efficient communication patterns spontaneously if there is a lengthy period of unrestricted communication before the structure becomes permanent.

*2.14 In a given period of time members of a small group can contribute more to a discussion than members of a larger group.

*2.15 A popular group member has: (a) greater direct and indirect access to resources; (b) more control over other members; (c) more insight into the behavior of other members; and (d) more opportunity to gauge opinion in the group.

*2.16 The greater the amount of interaction between members: (a) the more information about the personality of members; (b) the more definite the sentiments of members toward each other; and (c) the more consensus concerning the popularity status.

*2.17 Interaction corrects error of judgment concerning the personality of other group members.

*2.18 As the pressure of the environment increases, (a) the interaction in the internal system decreases and (b) division of labor and restricted communication increase.

*2.19 Members who attempt to control the group tend to lose their popularity.

*2.20 The more interaction, the more positive is the sentiment towards others in the group and towards those who interact frequently.

EXCEPT:

2.20.1 where interaction does not give information

2.20.2 where the task is disliked

2.20.3 where control is attempted by a member with deviating norms

2.20.4 where subgroups have different norms.

3. Sources of Power-Status

3.1 Direct control of task-environmental rewards is a source of power.

3.2 Control of rewards associated with "friendly interaction" is a source of power.

3.2.1 The greater the personal attraction of other group members to a single individual, the greater the power of that individual.

3.2.2 The greater the interpersonal attraction among the members of a group, the greater the power of the "group" over the group members.

3.3 Control of punishment will be a source of power when (a) the conditions of punishment are clearly specified and (b) compliance can be observed.

3.4 Punishment-based power (a) will not lead to interpersonal liking and (b) will inhibit the exercise of power based on interpersonal attraction.

3.5 When several individuals are rewarded or punished as an entity, the "group" will have power over the individual members.

3.5.1 Under conditions of common fate, the individuals will develop an interpersonal attraction.

3.5.2 The individual members will have more influence over each other under conditions of common fate.

3.6 An individual who has been successful in the past will have increased power.

3.7 An individual with a reputation of competence will have power even if the group members have not directly observed his success.

3.8 Formal designation as a leader, supervisor, boss, manager, etc., will be a source of power.

3.8.1 Legitimate power will be weakened when influence attempts are outside the scope specified by formal designation.

4. Performance, the Task Environment, and Interpersonal Relations

4.1 The performance of a group is highly dependent on the task environment.

4.1.1 In general, difficult tasks lower the group production.

4.2 Individual group members are profoundly influenced by other individuals in the task environment.

4.2.1 The task environment can create interpersonal obstacles which inhibit group productivity; for example, physical structures which impede the free flow of communication, rigid lines of communication, etc.

4.2.2 Interpersonal obstacles originating in the behavior of other group members can inhibit individual and group productivity; for example, silence of one or two group members.

4.3 When an individual works alone, all his energies can focus on the task. When he works in a group, he must also attend to interpersonal relationships influencing the task.

4.4 When selecting members for a problem solving or decision making group choose those whose self-centered needs are of a less intense variety; as a minimum, include among members some whose motivation is less individualistic in its orientation.

4.5 Attempt to strengthen motivations of a cooperative nature by initial instructions given to group members and by constant reminders of the cooperative nature of the task as the group proceeds from one phase to the next. Emphasis on the cooperative aspects of the task would seem to facilitate the solution of interpersonal problems.

4.6 Increasing the heterogeneity of personality and background can have at least two effects on group interaction.

4.6.1 Increasing heterogeneity of personality can increase the difficulty of building interpersonal relations.

4.6.1.1 Interpersonal disorganization will be greatest when (a) the dimensions of personality differences are directly relevant to the interpersonal relations of group members and (b) the task requires elaborate patterns of interpersonal relations.

4.6.2 Increasing the heterogeneity of personality within a group can increase the problem-solving potential of the group.

    4.6.2.1 Task facilitation is likely to be greatest when (a) the dimensions of personality differences are relevant to the critical demands of the task and (b) the task is difficult--the advantages of heterogeneous perspectives can compensate for the time lost in ironing out interpersonal conflict.

*4.7 In a poorly organized group or in a group with status conflict: (a) attainment of aims by one member can hinder the performance of others; (b) members withhold information from one another; (c) members communicate hostile feelings and criticisms; and (d) members communicate a great deal of information unrelated to the task.

5. Resolving Conflict

5.1 High consensus among group members in either substantive or affective conflict can be achieved when: (a) there is little expression of personal, self-oriented needs; (b) expressed self-needs are satisfied during the course of the meeting; (c) there is a generally pleasant atmosphere and the participants recognize the need for unified action; and (d) the group's problem-solving activity is understandable, orderly, and focused on one issue at a time.

5.2 High consensus among group members in substantive conflict can be achieved when: (a) facts are available and used; (b) the chairman, through much solution proposing, aids the group in penetrating its agenda problems; and (c) participants feel warm and friendly toward each other in a personal way.

5.3 High consensus among group members in affective conflict can be achieved when: (a) the group withdraws from its problem-solving activities by tackling only discrete, simpler agenda items; (b) group members withdraw from the problem situation and have little interest in what is being discussed; and (c) group members withdraw from interpersonal contact with each other.

6. The Influence of Norms

*6.1 Individuals most readily conform to the norms of those groups in which they value membership.

    *6.1.1 When in a valued group, a man will orientate his actions with respect to others in the group.

*6.1.2 The physical presence of a group is not a necessary condition for conformity to its norms.

*6.2 When there is no group whose norms are perceived as relevant in an unfamiliar situation, the norms of the culture will determine the behavior of the individual. Conversely, firm attachment to the norms of a group will enable a member to ignore or go against the norms of the culture.

*6.3 Striving for success may be qualified by the need to belong. The result is a leveling out of individual reactions: the range of deviations around the mean is narrowed.

7. Member Satisfaction

7.1 Success on the group task will produce satisfaction.

7.2 Success in solving problems of interpersonal relations will produce satisfaction.

　　7.2.1 Congruence of member motivation and a lack of self-oriented needs will produce satisfaction.

　　7.2.2 Agreement on leadership will produce satisfaction.

7.3 Interaction with persons we like and persons who like us will produce satisfaction.

7.4 A position of high power will produce satisfaction.

7.5 A position of centrality or autonomy will produce satisfaction.

8. Decision Making

*8.1 Decision making involves a power dimension because it may have to be secured by means of controlling other members.

　　8.1.1 In groups where decisions are transmitted by a majority vote, a small resolute group may control a larger number of indifferent members.

*8.2 If members of the decision making group differ in norms, decision making is prolonged and group pressure is exerted to secure uniformity of norms.

　　*8.2.1 If sub-groups differ in norms, group pressure on the deviant sub-groups is less likely to be successful and a struggle for supremacy may take place.

*8.3 If decision making is restricted to some members of the group: (a) other members will respond with respect if the groups share norms--differences in status and control will not be resented because the values are internalized and (b) other members will

respond with hostility when norms are not shared, or in
groups with restricted communication, not known to be shared.

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